

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LJP--000005**
 Product name: **Lustro Ambra**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel.: **+39 0571 7091**
 Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H225** Highly flammable liquid and vapour.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H373** May cause damage to organs through prolonged or repeated exposure.
- H318** Causes serious eye damage.
- H315** Causes skin irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.
- EUH208** Contains:
 - L - alpha - pinen
 - (-)-Pin-2(10)-Ene
 - Eucalyptus Oil
 - Eucaliptol
 - (R)-P-MENTHA-1,8-DIENE
 - Alpha-Pinene
 - Eucalyptus globulus oil
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P310** Immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.

Contains: TURPENTINE
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 CYCLOHEXANONE
 Linalool

2.3. Other hazards

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

SECTION 3. Composition/information on ingredients

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
CYCLOHEXANE		
CAS	110-82-7 5 ≤ x < 9	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC	203-806-2	
INDEX	601-017-00-1	
ASPHALT		
CAS	12002-43-6 5 ≤ x < 9	
EC		
INDEX		
Synthetic Camphor		
CAS	76-22-2 5 ≤ x < 9	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)		
CAS	64742-82-1 5 ≤ x < 9	Flam. Liq. 3 H226, STOT RE 1 H372, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P
EC	919-446-0	
INDEX		
Reg. no.	01-2119458049-33	
CYCLOHEXANONE		
CAS	108-94-1 3 ≤ x < 5	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC	203-631-1	
INDEX	606-010-00-7	
Reg. no.	01-2119453616-35	
CYCLOHEXANOL		
CAS	108-93-0 1 ≤ x < 5	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
4-METHYLPENTAN-2-ONE		
CAS	108-10-1 1 ≤ x < 5	Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
EC	203-550-1	
INDEX	606-004-00-4	
Reg. no.	01-2119473980-30	
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	
XYLENE (MIXTURE OF ISOMERS)		
CAS	1330-20-7 1 ≤ x < 5	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C
EC	215-535-7	
INDEX	601-022-00-9	
ETHYL ACETATE		
CAS	141-78-6 0,5 ≤ x < 1	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC	205-500-4	
INDEX	607-022-00-5	
Reg. no.	01-2119475103-46	

SECTION 3. Composition/information on ingredients ... / >>

Eucalyptus globulus oil

CAS 84625-32-1 0,5 ≤ x < 1 **Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411**
EC 283-406-2
INDEX
Reg. no. 2119978250-37-0000

1,2,3,4-tetrahydronaphthalene

CAS 119-64-2 0 ≤ x < 0,5 **Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 2 H411, EUH019**
EC 204-340-2
INDEX 601-045-00-4
Reg. no. 01-2119539463-37-XXXX

Alpha-Pinene

CAS 80-56-8 0,25 ≤ x < 0,5 **Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
EC 201-291-8
INDEX

Reg. no. 01-2119519223-49-0000

(R)-P-MENTHA-1,8-DIENE

CAS 5989-27-5 0 ≤ x < 0,25 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C**
EC 227-813-5
INDEX 601-029-00-7
Reg. no. 01-2119529223-47-000

Camphene

CAS 79-92-5 0 ≤ x < 0,25 **Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
EC 201-234-8
INDEX

Reg. no. 01-2119446293-40-XXXX

Eucalyptol

CAS 470-82-6 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Skin Sens. 1 H317**
EC 207-431-5
INDEX

Reg. no. 01-2119967772-24-0000

Eucalyptus Oil

CAS 8000-48-4 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411**
EC
INDEX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317**
EC 242-060-2
INDEX

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
EC 232-077-3
INDEX

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

SECTION 7. Handling and storage ... / >>

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihi, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	700	200			
TLV	CZE	700	200,2	2000	572	
AGW	DEU	700	200	2800	800	
MAK	DEU	700	200	2800	800	
VLA	ESP	700	200			
VLEP	FRA	700	200	1300	375	11
TLV	GRC	700	200			
VLEP	ITA	350	100			
TGG	NLD	700		1400		
VLE	PRT	700	200			
NDS/NDSch	POL	300		1000		SKIN
TLV	ROU	700	200			
MV	SVN	700	200	2800	800	
ESD	TUR	700	200			
WEL	GBR	350	100	1050	300	
OEL	EU	700	200			
TLV-ACGIH		344	100			

ASPHALT

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		5				

Synthetic Camphor

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			100			

CYCLOHEXANONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

4-METHYLPENTAN-2-ONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

1,2,3,4-tetrahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		50				

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

SECTION 8. Exposure controls/personal protection ... / >>

Protect hands with category III work gloves (see standard EN 374).The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
 The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	0 °C	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	18 T ≤ 18 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 47,83 %

SECTION 10. Stability and reactivity**10.1. Reactivity**

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANE

May react violently with: strong oxidants, liquid nitric oxide. Forms explosive mixtures with: air.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.

May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.

Fire hazard.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

SECTION 10. Stability and reactivity ... / >>

CYCLOHEXANE

Incompatible materials: natural rubbers, neoprene, polyvinyl chloride, polyethylene.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

CYCLOHEXANE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

CYCLOHEXANE

Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the cyclohexanone, its metabolite.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

NOAEL: 300 mg/Kg (chronic, oral, male animal, 2 years); LOAEC (inhalation, vapour, 90 dyes): 345 ppm; NOAEC (inhalation, rat, vapour): 300 mg/m³; NOAEL (oral, rat, 90 dyes): >= 495 mg/Kg; NOAEC (inhalation, rat, vapour, 90 dyes): 690 ppm; NOAEL (subacute, oral, female animal, 28 dyes): 1056 mg/Kg.

SECTION 11. Toxicological information ... / >>

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

CYCLOHEXANE

The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	1136,36 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat

TURPENTINE

LD50 (Oral)	5760 mg/kg Rat
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CYCLOHEXANE

LD50 (Oral)	> 5000 mg/kg Rat
LD50 (Dermal)	> 2000 mg/kg Rabbit
LC50 (Inhalation)	13,9 mg/l/4h Rat

4-METHYLPENTAN-2-ONE

LD50 (Oral)	2080 mg/kg Rat
LD50 (Dermal)	> 16000 mg/kg Rabbit
LC50 (Inhalation)	> 8,2 mg/l/4h Rat

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

LD50 (Oral)	> 15000 mg/kg Rat
LD50 (Dermal)	> 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

- L - alpha - pinen
- (-)-Pin-2(10)-Ene
- Eucalyptus Oil
- Eucaliptol
- (R)-P-MENTHA-1,8-DIENE
- Alpha-Pinene
- Eucaliptus globulus oil

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

CYCLOHEXANE

LC50 - for Fish	4,53 mg/l/96h Pimephales promelas
EC50 - for Crustacea	3,89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h Chlorella vulgaris

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water	100 - 1000 mg/l
Degradability: information not available	

TURPENTINE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

(R)-P-MENTHA-1,8-DIENE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

SECTION 12. Ecological information ... / >>

CYCLOHEXANE
 Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

CYCLOHEXANOL
 Solubility in water 36000 mg/l
 Rapidly degradable

4-METHYLPENTAN-2-ONE
 Solubility in water > 10000 mg/l
 Rapidly degradable

CYCLOHEXANONE
 Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ETHYL ACETATE
 Solubility in water > 10000 mg/l
 Rapidly degradable

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)
 Partition coefficient: n-octanol/water 3,12
 BCF 25,9

(R)-P-MENTHA-1,8-DIENE
 Partition coefficient: n-octanol/water 4,38
 BCF 1022

CYCLOHEXANE
 Partition coefficient: n-octanol/water 3,44

CYCLOHEXANOL
 Partition coefficient: n-octanol/water 1,25

4-METHYLPENTAN-2-ONE
 Partition coefficient: n-octanol/water 1,9

CYCLOHEXANONE
 Partition coefficient: n-octanol/water 0,86

ETHYL ACETATE
 Partition coefficient: n-octanol/water 0,68
 BCF 30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)
 Partition coefficient: soil/water 2,73

CYCLOHEXANE
 Partition coefficient: soil/water 2,89

4-METHYLPENTAN-2-ONE
 Partition coefficient: soil/water 2,008

CYCLOHEXANONE
 Partition coefficient: soil/water 1,18

12.5. Results of PBT and vPvB assessment

vPvB substances contained:

SECTION 12. Ecological information ... / >>

Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

SECTION 14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33 Special Provision: 640C	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo: Pass.: Special Instructions:	Maximum quantity: 60 L Maximum quantity: 5 L A3, A72, A192	Packaging instructions: 364 Packaging instructions: 353

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
Point	3 - 40
<u>Contained substance</u>	
Point	57 CYCLOHEXANE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1

SECTION 16. Other information ... / >>

Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)

SECTION 16. Other information ... / >>

13. Regulation (EU) 2017/776 (X Atp. CLP) 14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 08 / 09.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LNP--000001**
Product name: **Lustro Nero**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBRIA ITALIA S.P.A.**
Full address: **via Pietramarina 53**
District and Country: **50053 Sovigliana - Vinci (FI) Italia**
Tel: **+39 0571 7091**
Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Acute toxicity, category 4	H332	Harmful if inhaled.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

- H226** Flammable liquid and vapour.
- H302+H332** Harmful if swallowed or if inhaled.
- H304** May be fatal if swallowed and enters airways.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains: Malaleuca alternifolia extract
L - alpha - pinen
terpinolen
(-)-Pin-2(10)-Ene
Alpha-Pinene
Eucaliptol
May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

- Contains:** TURPENTINE
Anethole
Eucalyptus Oil
Eugenol
ROSIN
(R)-P-MENTHA-1,8-DIENE
Eucalyptus globulus oil
Linalool

2.3. Other hazards

vPvB substances contained:
Camphene

PBT substances contained:
Camphene

SECTION 3. Composition/information on ingredients

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
CYCLOHEXANOL		
CAS	108-93-0 10 ≤ x < 20	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
ROSIN		
CAS	8050-09-7 9 ≤ x < 25	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
Eucalyptus Oil		
CAS	8000-48-4 5 ≤ x < 9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
Au Resinate		
CAS	1 ≤ x < 5	Flam. Sol. 1 H228
EC	945-694-4	
INDEX		
Synthetic Camphor		
CAS	76-22-2 1 ≤ x < 5	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
Eugenol		
CAS	97-53-0 1 ≤ x < 5	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
EC		
INDEX		
Decahydronaphthalene		
CAS	91-17-8 1 ≤ x < 2,5	Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10
EC	202-046-9	
INDEX		
Reg. no.	01-2119565127-37-XXXX	
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	
Methylcyclohexanol		
CAS	25639-42-3 1 ≤ x < 5	Acute Tox. 4 H332
EC	247-152-6	
INDEX		
Eucaliptus globulus oil		
CAS	84625-32-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
(R)-P-MENTHA-1,8-DIENE		
CAS	5989-27-5 1 ≤ x < 2,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C
EC	227-813-5	
INDEX	601-029-00-7	
Reg. no.	01-2119529223-47-000	

SECTION 3. Composition/information on ingredients ... / >>

Anethole

CAS 104-46-1 1 ≤ x < 5 Skin Sens. 1 H317
EC 2032055
INDEX

BENZYL ALCOHOL

CAS 100-51-6 1 ≤ x < 5 Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319
EC 202-859-9
INDEX 603-057-00-5
Reg. no. 01-2119492630-38-0000

Eucaliptol

CAS 470-82-6 0,5 ≤ x < 1 Flam. Liq. 3 H226, Skin Sens. 1 H317
EC 207-431-5
INDEX
Reg. no. 01-2119967772-24-0000

Alpha-Pinene

CAS 80-56-8 0,5 ≤ x < 1 Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315,
Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 201-291-8
INDEX

Reg. no. 01-2119519223-49-0000

CYCLOHEXANONE

CAS 108-94-1 0,5 ≤ x < 1 Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332,
Eye Dam. 1 H318, Skin Irrit. 2 H315
EC 203-631-1
INDEX 606-010-00-7
Reg. no. 01-2119453616-35

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0 ≤ x < 0,5 Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
EC 203-550-1
INDEX 606-004-00-4
Reg. no. 01-2119473980-30

CYCLOHEXANE

CAS 110-82-7 0,25 ≤ x < 0,5 Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336,
Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 203-806-2
INDEX 601-017-00-1

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315,
Classification note according to Annex VI to the CLP Regulation: C
EC 215-535-7
INDEX 601-022-00-9

Camphene

CAS 79-92-5 0,25 ≤ x < 0,5 Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1,
Aquatic Chronic 1 H410 M=1
EC 201-234-8
INDEX

Reg. no. 01-2119446293-40-XXXX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC 242-060-2
INDEX

1,2,3,4-tetrahydronaphthalene

CAS 119-64-2 0 ≤ x < 0,5 Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 2 H411, EUH019
EC 204-340-2
INDEX 601-045-00-4
Reg. no. 01-2119539463-37-XXXX

terpinolen

CAS 586-62-9 0 ≤ x < 0,25 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1,
Aquatic Chronic 1 H410 M=1
EC 209-578-0
INDEX

Reg. no. 01-2119982325-32-XXXX

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1,
Aquatic Chronic 1 H410 M=1
EC 232-077-3
INDEX

SECTION 3. Composition/information on ingredients ... / >>

Malaleuca alternifolia extract

CAS 85085-48-9 0 ≤ x < 0,25

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC

INDEX

ETHYL ACETATE

CAS 141-78-6 0 ≤ x < 0,5

Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066

EC 205-500-4

INDEX 607-022-00-5

Reg. no. 01-2119475103-46

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency

SECTION 6. Accidental release measures ... / >>

procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici

SECTION 8. Exposure controls/personal protection ... / >>

SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihi, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

TURPENTINE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

CYCLOHEXANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

ROSIN

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers		
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Chronic systemic
Oral				1,065 mg/kg bw/d		
Inhalation						10 mg/m3
Skin				1,065 mg/kg bw/d		2,131 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

Methylcyclohexanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			50			

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

BENZYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	5				
TLV	CZE	40	8,88	80	17,76	
AGW	DEU	22	5	44	10	SKIN 11
NDS/NDSch	POL	240				
MV	SVN	22	5	44	10	SKIN

CYCLOHEXANONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

CYCLOHEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	700		200		
TLV	CZE	700	200,2	2000	572	
AGW	DEU	700	200	2800	800	
MAK	DEU	700	200	2800	800	
VLA	ESP	700	200			
VLEP	FRA	700	200	1300	375	11
TLV	GRC	700	200			
VLEP	ITA	350	100			
TGG	NLD	700		1400		
VLE	PRT	700	200			
NDS/NDSch	POL	300		1000		SKIN
TLV	ROU	700	200			
MV	SVN	700	200	2800	800	
ESD	TUR	700	200			
WEL	GBR	350	100	1050	300	
OEL	EU	700	200			
TLV-ACGIH		344	100			

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

SECTION 8. Exposure controls/personal protection ... / >>

1,2,3,4-tetrahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		50				

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral			VND	4,5				
				mg/kg				
Inhalation	734	734	VND	367	1468	1468	734	734
	mg/m3	mg/m3		mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
Skin			VND	37			VND	63
				mg/kg				mg/kg

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

SECTION 8. Exposure controls/personal protection ... / >>

RESPIRATORY PROTECTION If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	34 T ≤ 39 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 34,91 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F. Possibility of explosion.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

ETHYL ACETATE

SECTION 10. Stability and reactivity ... / >>

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid, iron, oxidising agents, sulphuric acid. Risk of explosion on contact with: phosphorus trichloride.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

CYCLOHEXANE

May react violently with: strong oxidants, liquid nitric oxide. Forms explosive mixtures with: air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

BENZYL ALCOHOL

Avoid exposure to: air, sources of heat, naked flames.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

BENZYL ALCOHOL

Incompatible with: sulphuric acid, oxidising substances, aluminium.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

CYCLOHEXANE

Incompatible materials: natural rubbers, neoprene, polyvinyl chloride, polyethylene.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Eugenol

Informazioni riferite all'eugenolo:
LD50 orale ratto 2650 mg/Kg
LD50 dermale coniglio 5000 mg/Kg.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:
LD50 orale ratto : 2860 mg/Kg
LD50 pelle coniglio: 16710 mg/Kg
Pelle : moderatamente irritante
Non sensibilizzante
Occhi : non irritante.

Eugenol

Informazioni riferite all'eugenolo:
LD50 orale ratto 2650 mg/Kg
LD50 dermale coniglio 5000 mg/Kg.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:
LD50 orale ratto : 2860 mg/Kg
LD50 pelle coniglio: 16710 mg/Kg
Pelle : moderatamente irritante
Non sensibilizzante
Occhi : non irritante.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

CYCLOHEXANE

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

CYCLOHEXANE

Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the cyclohexanone, its metabolite.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

CYCLOHEXANE

The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side

SECTION 11. Toxicological information ... / >>

effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture: 17,14 mg/l
 ATE (Oral) of the mixture: 876,69 mg/kg
 ATE (Dermal) of the mixture: >2000 mg/kg

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral) 3523 mg/kg Rat
 LD50 (Dermal) 4350 mg/kg Rabbit
 LC50 (Inhalation) 26 mg/l/4h Rat

TURPENTINE

LD50 (Oral) 5760 mg/kg Rat

CYCLOHEXANE

LD50 (Oral) > 5000 mg/kg Rat
 LD50 (Dermal) > 2000 mg/kg Rabbit
 LC50 (Inhalation) 13,9 mg/l/4h Rat

BENZYL ALCOHOL

LD50 (Oral) 1230 mg/kg Rat
 LD50 (Dermal) 2000 mg/kg Rabbit
 LC50 (Inhalation) > 4,1 mg/l/4h Rat

4-METHYLPENTAN-2-ONE

LD50 (Oral) 2080 mg/kg Rat
 LD50 (Dermal) > 16000 mg/kg Rabbit
 LC50 (Inhalation) > 8,2 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

- Malaleuca alternifolia extract
- L - alpha - pinen
- terpinolen
- (-)-Pin-2(10)-Ene
- Alpha-Pinene
- Eucaliptol

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

SECTION 11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish	35 mg/l/96h <i>Oncorhynchus mykiss</i>
EC50 - for Crustacea	69,6 mg/l/48h <i>Daphnia pulex</i>

CYCLOHEXANE

LC50 - for Fish	4,53 mg/l/96h <i>Pimephales promelas</i>
EC50 - for Crustacea	3,89 mg/l/48h <i>Daphnia magna</i>
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h <i>Chlorella vulgaris</i>

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water	100 - 1000 mg/l
Degradability: information not available	

TURPENTINE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ROSIN

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

(R)-P-MENTHA-1,8-DIENE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

CYCLOHEXANE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

CYCLOHEXANOL

Solubility in water	36000 mg/l
Rapidly degradable	

SECTION 12. Ecological information ... / >>

BENZYL ALCOHOL
Rapidly degradable

4-METHYLPENTAN-2-ONE
Solubility in water > 10000 mg/l
Rapidly degradable

CYCLOHEXANONE
Solubility in water 0,1 - 100 mg/l
Rapidly degradable

ETHYL ACETATE
Solubility in water > 10000 mg/l
Rapidly degradable

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)
Partition coefficient: n-octanol/water 3,12
BCF 25,9

ROSIN
Partition coefficient: n-octanol/water 3
BCF 56,23

(R)-P-MENTHA-1,8-DIENE
Partition coefficient: n-octanol/water 4,38
BCF 1022

CYCLOHEXANE
Partition coefficient: n-octanol/water 3,44

CYCLOHEXANOL
Partition coefficient: n-octanol/water 1,25

BENZYL ALCOHOL
Partition coefficient: n-octanol/water 1,1

4-METHYLPENTAN-2-ONE
Partition coefficient: n-octanol/water 1,9

CYCLOHEXANONE
Partition coefficient: n-octanol/water 0,86

ETHYL ACETATE
Partition coefficient: n-octanol/water 0,68
BCF 30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)
Partition coefficient: soil/water 2,73

ROSIN
Partition coefficient: soil/water 3,7289

CYCLOHEXANE
Partition coefficient: soil/water 2,89

4-METHYLPENTAN-2-ONE
Partition coefficient: soil/water 2,008

CYCLOHEXANONE
Partition coefficient: soil/water 1,18

12.5. Results of PBT and vPvB assessment

SECTION 12. Ecological information ... / >>

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

SECTION 14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
<u>Point</u>	3 - 40
<u>Contained substance</u>	
<u>Point</u>	57 CYCLOHEXANE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1

SECTION 16. Other information ... / >>

Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H331	Toxic if inhaled.
H302+H332	Harmful if swallowed or if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament

SECTION 16. Other information ... / >>

12. Regulation (EU) 2016/1179 (IX Atp. CLP) 13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LBP--000019**
Product name: **Lustrò Bleu**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBRIA ITALIA S.P.A.**
Full address: **via Pietramarina 53**
District and Country: **50053 Sovigliana - Vinci (FI) Italia**
Tel.: **+39 0571 7091**
Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

- H226** Flammable liquid and vapour.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H373** May cause damage to organs through prolonged or repeated exposure.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.
- EUH208** Contains: Eucalyptus globulus oil
Linalool
May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains: TURPENTINE
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
Eucalyptus Oil
ROSIN

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
TURPENTINE		
CAS	8006-64-2 25 ≤ x < 40	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
ROSIN		
CAS	8050-09-7 9 ≤ x < 25	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	

SECTION 3. Composition/information on ingredients ... / >>

CYCLOHEXANOL

CAS 108-93-0 5 ≤ x < 9 Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC 203-630-6
INDEX 603-009-00-3
Reg. no. 01-2119447488-26-XXXX

Synthetic Camphor

CAS 76-22-2 5 ≤ x < 9 Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC 200-945-0

INDEX

CYCLOHEXANE

CAS 110-82-7 2,5 ≤ x < 5 Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 203-806-2

INDEX 601-017-00-1

Eucalyptus Oil

CAS 8000-48-4 2,5 ≤ x < 5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC

INDEX

Titanium tetraisopropanolate

CAS 546-68-9 1 ≤ x < 5 Eye Irrit. 2 H319, STOT SE 3 H336

EC 208-909-6

INDEX

Reg. no. 01-2119967389-17-xxxx

Au Resinate

CAS 1 ≤ x < 5 Flam. Sol. 1 H228

EC 945-694-4

INDEX

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 1 ≤ x < 5 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C

EC 215-535-7

INDEX 601-022-00-9

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

CAS 64742-82-1 1 ≤ x < 2,5 Flam. Liq. 3 H226, STOT RE 1 H372, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P

EC 919-446-0

INDEX

Reg. no. 01-2119458049-33

1,2,3,4-tetrahydronaphthalene

CAS 119-64-2 0,5 ≤ x < 1 Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 2 H411, EUH019

EC 204-340-2

INDEX 601-045-00-4

Reg. no. 01-2119539463-37-XXXX

Linalool

CAS 78-70-6 0,5 ≤ x < 1 Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317

EC 201-134-4

INDEX

Reg. no. 01-2119474016-42-0000

ETHYL ACETATE

CAS 141-78-6 0,5 ≤ x < 1 Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066

EC 205-500-4

INDEX 607-022-00-5

Reg. no. 01-2119475103-46

Eucaliptus globulus oil

CAS 84625-32-1 0 ≤ x < 0,5 Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC 283-406-2

INDEX

Reg. no. 2119978250-37-0000

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0 ≤ x < 0,5 Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066

EC 203-550-1

INDEX 606-004-00-4

Reg. no. 01-2119473980-30

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb

SECTION 6. Accidental release measures ... / >>

the remainder with inert absorbent material. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

SECTION 8. Exposure controls/personal protection ... / >>

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	700	200			
TLV	CZE	700	200,2	2000	572	
AGW	DEU	700	200	2800	800	
MAK	DEU	700	200	2800	800	
VLA	ESP	700	200			
VLEP	FRA	700	200	1300	375	11
TLV	GRC	700	200			
VLEP	ITA	350	100			
TGG	NLD	700		1400		
VLE	PRT	700	200			
NDS/NDSch	POL	300		1000		SKIN
TLV	ROU	700	200			
MV	SVN	700	200	2800	800	
ESD	TUR	700	200			
WEL	GBR	350	100	1050	300	
OEL	EU	700	200			
TLV-ACGIH		344	100			

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			100			

1,2,3,4-tetrahydronaphthalene

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			50			

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

SECTION 8. Exposure controls/personal protection ... / >>

When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	23 T ≤ 31 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

SECTION 9. Physical and chemical properties ... / >>

VOC (Directive 2010/75/EC) : 42,27 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

CYCLOHEXANE

May react violently with: strong oxidants, liquid nitric oxide. Forms explosive mixtures with: air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.

May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.

Fire hazard.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

CYCLOHEXANE

Incompatible materials: natural rubbers, neoprene, polyvinyl chloride, polyethylene.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

ETHYL ACETATE

SECTION 10. Stability and reactivity ... / >>

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.
4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances,reducing substances.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes,monocyclic terpenes,hydroterpenes,pyrones,cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

CYCLOHEXANE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

CYCLOHEXANE

Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the cyclohexanone, its metabolite.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

NOAEL: 300 mg/Kg (cronica, orale, animale, 2 anni); LOAEC (inalazione, vapore, 90 dyes): 345 ppm; NOAEC(inalazione, rat, vapore): 300 mg/m³; NOAEL (orale, rat, 90 dyes): >= 495 mg/Kg; NOAEC (inalazione, rat, vapore, 90 dyes): 690 ppm; NOAEL (subacuta, orale, animale, 28 dyes):1056 mg/Kg.

Interactive effects

CYCLOHEXANE

The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

SECTION 11. Toxicological information ... / >>

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture: > 20 mg/l
ATE (Oral) of the mixture: 862,07 mg/kg
ATE (Dermal) of the mixture: >2000 mg/kg

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral) 3523 mg/kg Rat
LD50 (Dermal) 4350 mg/kg Rabbit
LC50 (Inhalation) 26 mg/l/4h Rat

TURPENTINE

LD50 (Oral) 5760 mg/kg Rat

CYCLOHEXANE

LD50 (Oral) > 5000 mg/kg Rat
LD50 (Dermal) > 2000 mg/kg Rabbit
LC50 (Inhalation) 13,9 mg/l/4h Rat

4-METHYLPENTAN-2-ONE

LD50 (Oral) 2080 mg/kg Rat
LD50 (Dermal) > 16000 mg/kg Rabbit
LC50 (Inhalation) > 8,2 mg/l/4h Rat

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

LD50 (Oral) > 15000 mg/kg Rat
LD50 (Dermal) > 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
May produce an allergic reaction.

Contains:
Eucaliptus globulus oil
Linalool

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

CYCLOHEXANE	
LC50 - for Fish	4,53 mg/l/96h Pimephales promelas
EC50 - for Crustacea	3,89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h Chlorella vulgaris

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water 100 - 1000 mg/l
 Degradability: information not available

TURPENTINE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ROSIN

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

CYCLOHEXANE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

CYCLOHEXANOL

Solubility in water 36000 mg/l
 Rapidly degradable

4-METHYLPENTAN-2-ONE

Solubility in water > 10000 mg/l
 Rapidly degradable

ETHYL ACETATE

Solubility in water > 10000 mg/l
 Rapidly degradable

12.3. Bioaccumulative potential

SECTION 12. Ecological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23
CYCLOHEXANE	
Partition coefficient: n-octanol/water	3,44
CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	1,9
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
ROSIN	
Partition coefficient: soil/water	3,7289
CYCLOHEXANE	
Partition coefficient: soil/water	2,89
4-METHYLPENTAN-2-ONE	
Partition coefficient: soil/water	2,008

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

SECTION 14. Transport information ... / >>

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>		
Point	3 - 40	
<u>Contained substance</u>		
Point	57	CYCLOHEXANE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

SECTION 15. Regulatory information ... / >>

Substances subject to the Stockholm Convention:
 None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%

SECTION 16. Other information ... / >>

- OEL: Occupational Exposure Level- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 08 / 09.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **PAX--001044**
 Product name **Platino Brillante**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name **COLOROBBLIA S.P.A.**
 Full address **via Pietramarina 53**
 District and Country **50053 Sovigliana - Vinci (FI)**
Italia
 Tel. **+39 0571 7091**
 Fax **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to

CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726
Az. Ospedaliera Università Foggia - Foggia - tel. 800183459
Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870
CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000
CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343
Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819
CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444
Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029
Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Synthetic Camphor		
CAS	76-22-2 10 ≤ x < 20	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
Eugenol		
CAS	97-53-0 5 ≤ x < 9	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
EC		
INDEX		
Au Resinate		
CAS	5 ≤ x < 9	Flam. Sol. 1 H228
EC	945-694-4	
INDEX		
Eucalyptus Oil		
CAS	8000-48-4 2,5 ≤ x < 5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
CYCLOHEXANOL		
CAS	108-93-0 1 ≤ x < 5	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)		
CAS	64742-82-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, STOT RE 1 H372, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P
EC	919-446-0	
INDEX		
Reg. no.	01-2119458049-33	
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	
Eucaliptus globulus oil		
CAS	84625-32-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
Eucaliptol		
CAS	470-82-6 1 ≤ x < 5	Flam. Liq. 3 H226, Skin Sens. 1 H317
EC	207-431-5	
INDEX		
Reg. no.	01-2119967772-24-0000	
Nitroethane		
CAS	79-24-3 1 ≤ x < 5	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H332
EC	201-188-9	
INDEX	609-035-00-1	
(R)-P-MENTHA-1,8-DIENE		
CAS	5989-27-5 1 ≤ x < 2,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C
EC	227-813-5	
INDEX	601-029-00-7	
Reg. no.	01-2119529223-47-000	

SECTION 3. Composition/information on ingredients ... / >>

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0,5 ≤ x < 1 Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
 EC 203-550-1
 INDEX 606-004-00-4
 Reg. no. 01-2119473980-30

Alpha-Pinene

CAS 80-56-8 0,5 ≤ x < 1 Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
 EC 201-291-8
 INDEX
 Reg. no. 01-2119519223-49-0000

Camphene

CAS 79-92-5 0,25 ≤ x < 0,5 Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
 EC 201-234-8
 INDEX
 Reg. no. 01-2119446293-40-XXXX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
 EC 242-060-2
 INDEX

CYCLOHEXANONE

CAS 108-94-1 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
 EC 203-631-1
 INDEX 606-010-00-7
 Reg. no. 01-2119453616-35

Malaleuca alternifolia extract

CAS 85085-48-9 0 ≤ x < 0,25 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
 EC
 INDEX

ETHYL ACETATE

CAS 141-78-6 0 ≤ x < 0,5 Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
 EC 205-500-4
 INDEX 607-022-00-5
 Reg. no. 01-2119475103-46

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
 EC 232-077-3
 INDEX

Anethole

CAS 104-46-1 0 ≤ x < 0,5 Skin Sens. 1 H317
 EC 2032055
 INDEX

TETRAHYDROFURFURYL ALCOHOL

CAS 97-99-4 0 ≤ x < 0,3 Repr. 1B H360Df, Eye Irrit. 2 H319
 EC 202-625-6
 INDEX 603-061-00-7

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C
 EC 215-535-7
 INDEX 601-022-00-9

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

SECTION 4. First aid measures ... / >>

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may

SECTION 7. Handling and storage ... / >>

accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

SECTION 8. Exposure controls/personal protection ... / >>

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			100			

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

CYCLOHEXANONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

SECTION 8. Exposure controls/personal protection ... / >>

When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	brown	
Odour	characteristic	
Odour threshold	Not available	
pH	Not applicable	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	38 T ≤ 43 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	1,00 - 1,05	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	65 - 75 cP	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

SECTION 9. Physical and chemical properties ... / >>

VOC (Directive 2010/75/EC) : 25,38 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.

May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.

Fire hazard.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

SECTION 10. Stability and reactivity ... / >>

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

NOAEL: 300 mg/Kg (chronic, oral, male animal, 2 years); LOAEC (inhalation, vapour, 90 dyes): 345 ppm; NOAEC (inhalation, rat, vapour): 300 mg/m³; NOAEL (oral, rat, 90 dyes): >= 495 mg/Kg; NOAEC (inhalation, rat, vapour, 90 dyes): 690 ppm; NOAEL (subacute, oral, female animal, 28 dyes): 1056 mg/Kg.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	781,25 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

SECTION 11. Toxicological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat
TURPENTINE	
LD50 (Oral)	5760 mg/kg Rat
TETRAHYDROFURFURYL ALCOHOL	
LD50 (Oral)	1600 mg/kg Rat
4-METHYLPENTAN-2-ONE	
LD50 (Oral)	2080 mg/kg Rat
LD50 (Dermal)	> 16000 mg/kg Rabbit
LC50 (Inhalation)	> 8,2 mg/l/4h Rat
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)	
LD50 (Oral)	> 15000 mg/kg Rat
LD50 (Dermal)	> 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

- Anethole
- L - alpha - pinen
- Malaleuca alternifolia extract
- (-)-Pin-2(10)-Ene
- Alpha-Pinene

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE	
LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)	
Solubility in water	100 - 1000 mg/l
Degradability: information not available	

TURPENTINE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

(R)-P-MENTHA-1,8-DIENE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

CYCLOHEXANOL	
Solubility in water	36000 mg/l
Rapidly degradable	

TETRAHYDROFURFURYL ALCOHOL	
Solubility in water	> 10000 mg/l
Rapidly degradable	

4-METHYLPENTAN-2-ONE	
Solubility in water	> 10000 mg/l
Rapidly degradable	

CYCLOHEXANONE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9

(R)-P-MENTHA-1,8-DIENE	
Partition coefficient: n-octanol/water	4,38
BCF	1022

SECTION 12. Ecological information ... / >>

CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
TETRAHYDROFURFURYL ALCOHOL	
Partition coefficient: n-octanol/water	-0,14
4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	1,9
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
4-METHYLPENTAN-2-ONE	
Partition coefficient: soil/water	2,008
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

SECTION 14. Transport information ... / >>

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
Point	3 - 40
<u>Contained substance</u>	
Point	30 TETRAHYDROFURFURYL ALCOHOL

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

SECTION 15. Regulatory information ... / >>

Substances subject to the Stockholm Convention:
 None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Repr. 1B	Reproductive toxicity, category 1B
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%

SECTION 16. Other information ... / >>

- LD50: Lethal dose 50%- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 03 / 07 / 08 / 09 / 11.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LRP--000010**
Product name: **Lustrò Bronzo**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBRIA ITALIA S.P.A.**
Full address: **via Pietramarina 53**
District and Country: **50053 Sovigliana - Vinci (FI) Italia**
Tel.: **+39 0571 7091**
Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H351** Suspected of causing cancer.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H373** May cause damage to organs through prolonged or repeated exposure.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.
- EUH208** Contains:
 - L - alpha - pinen
 - Malaleuca alternifolia extract
 - terpinolen
 - (-)-Pin-2(10)-Ene
 - Eugenol
 - Alpha-Pinene
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains:

- 1,2,3,4-tetrahydronaphthalene
- TURPENTINE
- Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
- Anethole
- Eucalyptus Oil
- ROSIN
- (R)-P-MENTHA-1,8-DIENE
- Eucaliptus globulus oil
- Eucaliptol
- Linalool

2.3. Other hazards

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
TURPENTINE		
CAS	8006-64-2 9 ≤ x < 10	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
Au Resinate		
CAS	9 ≤ x < 25	Flam. Sol. 1 H228
EC	945-694-4	
INDEX		
CYCLOHEXANOL		
CAS	108-93-0 5 ≤ x < 9	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
1,2,3,4-tetrahydronaphthalene		
CAS	119-64-2 5 ≤ x < 9	Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 2 H411, EUH019
EC	204-340-2	
INDEX	601-045-00-4	
Reg. no.	01-2119539463-37-XXXX	
Synthetic Camphor		
CAS	76-22-2 5 ≤ x < 9	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
ROSIN		
CAS	8050-09-7 1 ≤ x < 5	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
Eucalyptus Oil		
CAS	8000-48-4 2,5 ≤ x < 5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
Ag Resinate		
CAS	68551-38-2 1 ≤ x < 5	Flam. Sol. 1 H228
EC	271-373-7	
INDEX		
ASPHALT		
CAS	12002-43-6 1 ≤ x < 5	
EC		
INDEX		
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)		
CAS	64742-82-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, STOT RE 1 H372, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note/notes according to Annex VI to the CLP Regulation: P
EC	919-446-0	
INDEX		
Reg. no.	01-2119458049-33	
Eucaliptus globulus oil		
CAS	84625-32-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
(R)-P-MENTHA-1,8-DIENE		
CAS	5989-27-5 1 ≤ x < 2,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note/notes according to Annex VI to the CLP Regulation: C
EC	227-813-5	

SECTION 3. Composition/information on ingredients ... / >>

<i>INDEX</i>	601-029-00-7		
<i>Reg. no.</i>	01-2119529223-47-000		
Eucaliptol			
<i>CAS</i>	470-82-6	1 ≤ x < 5	Flam. Liq. 3 H226, Skin Sens. 1 H317
<i>EC</i>	207-431-5		
<i>INDEX</i>			
<i>Reg. no.</i>	01-2119967772-24-0000		
Anethole			
<i>CAS</i>	104-46-1	1 ≤ x < 5	Skin Sens. 1 H317
<i>EC</i>	2032055		
<i>INDEX</i>			
Linalool			
<i>CAS</i>	78-70-6	1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
<i>EC</i>	201-134-4		
<i>INDEX</i>			
<i>Reg. no.</i>	01-2119474016-42-0000		
Decahydronaphthalene			
<i>CAS</i>	91-17-8	0,5 ≤ x < 1	Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10
<i>EC</i>	202-046-9		
<i>INDEX</i>			
<i>Reg. no.</i>	01-2119565127-37-XXXX		
Alpha-Pinene			
<i>CAS</i>	80-56-8	0,5 ≤ x < 1	Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
<i>EC</i>	201-291-8		
<i>INDEX</i>			
<i>Reg. no.</i>	01-2119519223-49-0000		
Camphene			
<i>CAS</i>	79-92-5	0,25 ≤ x < 0,5	Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
<i>EC</i>	201-234-8		
<i>INDEX</i>			
<i>Reg. no.</i>	01-2119446293-40-XXXX		
Eugenol			
<i>CAS</i>	97-53-0	0 ≤ x < 0,5	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
<i>EC</i>			
<i>INDEX</i>			
(-)-Pin-2(10)-Ene			
<i>CAS</i>	127-91-3	0 ≤ x < 0,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
<i>EC</i>	242-060-2		
<i>INDEX</i>			
4-METHYLPENTAN-2-ONE			
<i>CAS</i>	108-10-1	0 ≤ x < 0,5	Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
<i>EC</i>	203-550-1		
<i>INDEX</i>	606-004-00-4		
<i>Reg. no.</i>	01-2119473980-30		
DIESEL OIL - not specified			
<i>CAS</i>	68476-34-6	0 ≤ x < 0,5	Carc. 2 H351
<i>EC</i>	270-676-1		
<i>INDEX</i>	649-227-00-2		
terpinolen			
<i>CAS</i>	586-62-9	0,25 ≤ x < 0,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
<i>EC</i>	209-578-0		
<i>INDEX</i>			
<i>Reg. no.</i>	01-2119982325-32-XXXX		
Malaleuca alternifolia extract			
<i>CAS</i>	85085-48-9	0 ≤ x < 0,25	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
<i>EC</i>			
<i>INDEX</i>			
ETHYL ACETATE			
<i>CAS</i>	141-78-6	0 ≤ x < 0,5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
<i>EC</i>	205-500-4		
<i>INDEX</i>	607-022-00-5		
<i>Reg. no.</i>	01-2119475103-46		

SECTION 3. Composition/information on ingredients ... / >>

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**

EC 232-077-3

INDEX

CYCLOHEXANONE

CAS 108-94-1 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315**

EC 203-631-1

INDEX 606-010-00-7

Reg. no. 01-2119453616-35

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent

SECTION 6. Accidental release measures ... / >>

any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu

SECTION 8. Exposure controls/personal protection ... / >>

TUR	Türkiye	12.08.2013 Tarihli, 28733 Sayılı, Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

TURPENTINE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

CYCLOHEXANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

1,2,3,4-tetrahydronaphthalene

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		50				

Synthetic Camphor

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

SECTION 8. Exposure controls/personal protection ... / >>

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		
TLV-ACGIH		0,001				INHAL

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

ASPHALT

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		5				

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

SECTION 8. Exposure controls/personal protection ... / >>

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
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SECTION 9. Physical and chemical properties ... / >>

Appearance	liquid
Colour	brown
Odour	characteristic
Odour threshold	Not available
pH	Not applicable
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	31 T ≤ 36 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not applicable
Upper inflammability limit	Not applicable
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	40 - 45 cP
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 32,05 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.

May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.

SECTION 10. Stability and reactivity ... / >>

Fire hazard.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

SECTION 11. Toxicological information ... / >>

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 NOAEL: 300 mg/Kg (cronic, oral, male animal, 2 years); LOAEC (inhalation, vapour, 90 dyes): 345 ppm; NOAEC(inhalation, rat, vapour): 300 mg/m3; NOAEL (oral, rat, 90 dyes): >= 495 mg/Kg; NOAEC (inhalation, rat, vapour, 90 dyes): 690 ppm; NOAEL (subacute, oral, female animal,28 dyes):1056 mg/Kg.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture: > 20 mg/l
 ATE (Oral) of the mixture: 1785,71 mg/kg
 ATE (Dermal) of the mixture: >2000 mg/kg

TURPENTINE
 LD50 (Oral) 5760 mg/kg Rat

4-METHYLPENTAN-2-ONE
 LD50 (Oral) 2080 mg/kg Rat
 LD50 (Dermal) > 16000 mg/kg Rabbit
 LC50 (Inhalation) > 8,2 mg/l/4h Rat

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 LD50 (Oral) > 15000 mg/kg Rat
 LD50 (Dermal) > 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:
 L - alpha - pinen
 Malaleuca alternifolia extract
 terpinolen
 (-)-Pin-2(10)-Ene
 Eugenol
 Alpha-Pinene

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Suspected of causing cancer

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

May cause damage to organs

SECTION 11. Toxicological information ... / >>

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE	
LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

12.2. Persistence and degradability

TURPENTINE
 Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

TURPENTINE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ROSIN	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

(R)-P-MENTHA-1,8-DIENE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

CYCLOHEXANOL	
Solubility in water	36000 mg/l
Rapidly degradable	

4-METHYLPENTAN-2-ONE	
Solubility in water	> 10000 mg/l
Rapidly degradable	

CYCLOHEXANONE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23

(R)-P-MENTHA-1,8-DIENE	
Partition coefficient: n-octanol/water	4,38
BCF	1022

CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25

SECTION 12. Ecological information ... / >>

4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	1,9
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

12.4. Mobility in soil

ROSIN	
Partition coefficient: soil/water	3,7289
4-METHYLPENTAN-2-ONE	
Partition coefficient: soil/water	2,008
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

SECTION 14. Transport information ... / >>

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30 Special provision: -	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo: Pass.: Special provision:	Maximum quantity: 220 L Maximum quantity: 60 L A3, A72, A192	Packaging instructions: 366 Packaging instructions: 355

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product Point 3 - 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

SECTION 15. Regulatory information ... / >>

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%

SECTION 16. Other information ... / >>

- IMDG: International Maritime Code for dangerous goods- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
 17. Regulation (EU) 2019/1148
 18. Regulation (EU) 2020/217 (XIV Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

SECTION 16. Other information ... / >>

The following sections were modified:
08 / 11 / 12.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LRP--000041**
 Product name: **Lustrò Rame**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA ITALIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel.: **+39 0571 7091**
 Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H373** May cause damage to organs through prolonged or repeated exposure.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains:
 - L - alpha - pinen
 - terpinolen
 - Eugenol
 - Malaleuca alternifolia extract
 - (-)-Pin-2(10)-Ene
 - DIPENTENE
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains: TURPENTINE
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 Anethole
 Eucalyptus Oil
 Alpha-Pinene
 (R)-P-MENTHA-1,8-DIENE
 Eucaliptus globulus oil
 Eucaliptol
 Linalool

2.3. Other hazards

vPvB substances contained:

Camphene

PBT substances contained:

Camphene

SECTION 3. Composition/information on ingredients

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Synthetic Camphor		
CAS	76-22-2 10 ≤ x < 20	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
Eucalyptus Oil		
CAS	8000-48-4 5 ≤ x < 9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
Eucalyptus globulus oil		
CAS	84625-32-1 2,5 ≤ x < 5	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	
Eucaliptol		
CAS	470-82-6 1 ≤ x < 5	Flam. Liq. 3 H226, Skin Sens. 1 H317
EC	207-431-5	
INDEX		
Reg. no.	01-2119967772-24-0000	
Decahydronaphthalene		
CAS	91-17-8 1 ≤ x < 2,5	Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10
EC	202-046-9	
INDEX		
Reg. no.	01-2119565127-37-XXXX	
(R)-P-MENTHA-1,8-DIENE		
CAS	5989-27-5 1 ≤ x < 2,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C
EC	227-813-5	
INDEX	601-029-00-7	
Reg. no.	01-2119529223-47-000	
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)		
CAS	64742-82-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, STOT RE 1 H372, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P
EC	919-446-0	
INDEX		
Reg. no.	01-2119458049-33	
Anethole		
CAS	104-46-1 1 ≤ x < 5	Skin Sens. 1 H317
EC	2032055	
INDEX		
CYCLOHEXANOL		
CAS	108-93-0 1 ≤ x < 5	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	

SECTION 3. Composition/information on ingredients ... / >>

BENZYL ALCOHOL

CAS 100-51-6 1 ≤ x < 5 Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319
EC 202-859-9
INDEX 603-057-00-5
Reg. no. 01-2119492630-38-0000

Alpha-Pinene

CAS 80-56-8 1 ≤ x < 5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC 201-291-8
INDEX
Reg. no. 01-2119519223-49-0000

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0,5 ≤ x < 1 Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
EC 203-550-1
INDEX 606-004-00-4
Reg. no. 01-2119473980-30

Camphene

CAS 79-92-5 0,5 ≤ x < 1 Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 201-234-8
INDEX
Reg. no. 01-2119446293-40-XXXX

DIPENTENE

CAS 138-86-3 0,5 ≤ x < 1 Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C

EC 205-341-0
INDEX 601-029-00-7

(-)-Pin-2(10)-Ene

CAS 127-91-3 0,5 ≤ x < 1 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC 242-060-2
INDEX

Malaleuca alternifolia extract

CAS 85085-48-9 0,25 ≤ x < 0,5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC
INDEX

Eugenol

CAS 97-53-0 0 ≤ x < 0,5 Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
EC
INDEX

terpinolen

CAS 586-62-9 0,25 ≤ x < 0,5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 209-578-0
INDEX

Reg. no. 01-2119982325-32-XXXX

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 232-077-3
INDEX

ETHYL ACETATE

CAS 141-78-6 0 ≤ x < 0,5 Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 205-500-4
INDEX 607-022-00-5
Reg. no. 01-2119475103-46

CYCLOHEXANONE

CAS 108-94-1 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315

EC 203-631-1
INDEX 606-010-00-7
Reg. no. 01-2119453616-35

TOLUENE

CAS 108-88-3 0 ≤ x < 0,5 Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336

EC 203-625-9
INDEX 601-021-00-3

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb

SECTION 6. Accidental release measures ... / >>

the remainder with inert absorbent material. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 (Fassung 07.06.2018) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2008 NIPO: 211-08-011-5
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 04.06.2015 (1602) - Pravilnik o spremembah in dopolnitvah Pravilnika o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	KİMYASAL MADDELERLE ÇALIŞMALARDA SAĞLIK VE GÜVENLİK ÖNLEMLERİ HAKKINDA YÖNETMELİK - Resmi Gazete Tarihi: 12.08.2013 Resmi Gazete Sayısı: 28733
EU	OEL EU	Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

SECTION 8. Exposure controls/personal protection ... />>

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		13	2	19	3

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300	54	800	144	
VLA	ESP	113	20			
VLEP	FRA	560	100			
WEL	GBR	566	100	850	150	
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
TLV-ACGIH		111	20			

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		100			

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH			100		

BENZYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	5				
TLV	CZE	40	9,04	80	18,08	
AGW	DEU	22	5	44	10	SKIN
NDS/NDSch	POL	240				11

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48,8	400	97,6	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
WEL	GBR	208	50			
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
TLV-ACGIH		205	50			SKIN

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,52	200	48,8	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
NDS/NDSch	POL	83		200		
VLE	PRT	83	20	208	50	
MV	SVN	83	20	207,5	50	
ESD	TUR	83	20	208	50	
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	BGR	734	200	1468	400
TLV	CZE	700	194,6	900	250,2
AGW	DEU	730	200	1460	400
MAK	DEU	750	200	1500	400
VLA	ESP	734	200	1468	400
VLEP	FRA	1400	400		
WEL	GBR	734	200	1468	400
TLV	GRC	734	200	1468	400
VLEP	ITA	734	200	1468	400
TGG	NLD	734		1468	
NDS/NDSch	POL	734		1468	
VLE	PRT	734	200	1468	400
TLV	ROU	400	111	500	139
MV	SVN	1400	400	1400	400
OEL	EU	734	200	1468	400
TLV-ACGIH		1441	400		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	200	53,2	500	133	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
NDS/NDSch	POL	100		200		SKIN
VLE	PRT	192	50	384	100	SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,96	80	19,92	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
WEL	GBR	41	10	82	20	SKIN
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
NDS/NDSch	POL	40		80		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
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SECTION 9. Physical and chemical properties ... / >>

Appearance	liquid
Colour	Not available
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	39 T ≤ 45 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not applicable
Upper inflammability limit	Not applicable
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 12,52 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F. Possibility of explosion.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

TOLUENE

Avoid exposure to: light.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.

SECTION 10. Stability and reactivity ... / >>

May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.

Fire hazard.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid, iron, oxidising agents, sulphuric acid. Risk of explosion on contact with: phosphorus trichloride.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic acid, organic nitrocompounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

BENZYL ALCOHOL

Avoid exposure to: air, sources of heat, naked flames.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

BENZYL ALCOHOL

Incompatible with: sulphuric acid, oxidising substances, aluminium.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

SECTION 11. Toxicological information ... / >>

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

NOAEL: 300 mg/Kg (cronic, oral, male animal, 2 years); LOAEC (inhalation, vapour, 90 dyes): 345 ppm; NOAEC(inhalation, rat, vapour): 300 mg/m3; NOAEL (oral, rat, 90 dyes): >= 495 mg/Kg; NOAEC (inhalation, rat, vapour, 90 dyes): 690 ppm; NOAEL (subacute, oral, female animal,28 dyes):1056 mg/Kg.

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:	> 20 mg/l
LD50 (Oral) of the mixture:	960,94 mg/kg
LD50 (Dermal) of the mixture:	>2000 mg/kg

TURPENTINE

LD50 (Oral) 5760 mg/kg Rat

TOLUENE

LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat

BENZYL ALCOHOL

LD50 (Oral)	1230 mg/kg Rat
LD50 (Dermal)	2000 mg/kg Rabbit
LC50 (Inhalation)	> 4,1 mg/l/4h Rat

4-METHYLPENTAN-2-ONE

LD50 (Oral)	2080 mg/kg Rat
LD50 (Dermal)	> 16000 mg/kg Rabbit
LC50 (Inhalation)	> 8,2 mg/l/4h Rat

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

LD50 (Oral)	> 15000 mg/kg Rat
LD50 (Dermal)	> 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

SECTION 11. Toxicological information ... / >>

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

L - alpha - pinen

terpinolen

Eugenol

Malaleuca alternifolia extract

(-)-Pin-2(10)-Ene

DIPENTENE

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).

The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish

35 mg/l/96h Oncorhynchus mykiss

EC50 - for Crustacea

69,6 mg/l/48h Daphnia pulex

DIPENTENE

LC50 - for Fish

80 mg/l/96h Oncorhynchus mykiss

EC50 - for Crustacea

17 mg/l/48h Daphnia magna

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

SECTION 12. Ecological information ... / >>

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

TURPENTINE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

(R)-P-MENTHA-1,8-DIENE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

TOLUENE

Solubility in water 100 - 1000 mg/l
 Rapidly degradable

DIPENTENE

NOT rapidly degradable

CYCLOHEXANOL

Solubility in water 36000 mg/l
 Rapidly degradable

BENZYL ALCOHOL

Rapidly degradable

4-METHYLPENTAN-2-ONE

Solubility in water > 10000 mg/l
 Rapidly degradable

CYCLOHEXANONE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ETHYL ACETATE

Solubility in water > 10000 mg/l
 Rapidly degradable

12.3. Bioaccumulative potential

(R)-P-MENTHA-1,8-DIENE

Partition coefficient: n-octanol/water 4,38
 BCF 1022

TOLUENE

Partition coefficient: n-octanol/water 2,73
 BCF 90

DIPENTENE

Partition coefficient: n-octanol/water 4,5

CYCLOHEXANOL

Partition coefficient: n-octanol/water 1,25

BENZYL ALCOHOL

Partition coefficient: n-octanol/water 1,1

4-METHYLPENTAN-2-ONE

Partition coefficient: n-octanol/water 1,9

CYCLOHEXANONE

Partition coefficient: n-octanol/water 0,86

SECTION 12. Ecological information ... / >>

ETHYL ACETATE
 Partition coefficient: n-octanol/water 0,68
 BCF 30

12.4. Mobility in soil

4-METHYLPENTAN-2-ONE
 Partition coefficient: soil/water 2,008
 CYCLOHEXANONE
 Partition coefficient: soil/water 1,18

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

SECTION 14. Transport information ... / >>

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
Point	3 - 40
<u>Contained substance</u>	
Point	48 TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2 Flammable liquid, category 2
Flam. Liq. 3 Flammable liquid, category 3

SECTION 16. Other information ... / >>

Flam. Sol. 1	Flammable solid, category 1
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H361d	Suspected of damaging the unborn child.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds

SECTION 16. Other information ... / >>

- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:

The following sections were modified:

01 / 03 / 08 / 11.

Changed TLVs in section 8.1 for following countries:

CZE,

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: X11--001080
Product name: Oro Brillante 8%
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: third firing decoration in the glass/ceramics/porcelain sectors

1.3. Details of the supplier of the safety data sheet

Name: COLOROBBLIA S.P.A.
Full address: via Pietramarina 53
District and Country: 50053 Sovigliana - Vinci (FI)
Italia
Tel. +39 0571 7091
Fax +39 0571 709.850

e-mail address of the competent person responsible for the Safety Data Sheet: ambientemsds@colorobbia.it

1.4. Emergency telephone number

For urgent inquiries refer to:
CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726
Az. Ospedaliera Università Foggia - Foggia - tel. 800183459
Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870
CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000
CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343
Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819
CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444
Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029
Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H351** Suspected of causing cancer.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H373** May cause damage to organs through prolonged or repeated exposure.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.
- EUH208** Contains:
 - L - alpha - pinen
 - Anethole
 - Malaleuca alternifolia extract
 - (-)-Pin-2(10)-Ene
 - Eugenol
 - Alpha-Pinene
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

- Contains:**
- 1,2,3,4-tetrahydronaphthalene
 - TURPENTINE
 - Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 - Synthetic Camphor
 - Lavandin Essential oil
 - Eucalyptus Oil
 - ROSIN
 - (R)-P-MENTHA-1,8-DIENE
 - Eucaliptus globulus oil
 - Eucaliptol
 - Linalool

2.3. Other hazards

vPvB substances contained:
Camphene

PBT substances contained:
Camphene

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Synthetic Camphor		
CAS	76-22-2 20 ≤ x < 25	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
Au Resinate		
CAS	9 ≤ x < 25	Flam. Sol. 1 H228
EC	945-694-4	
INDEX		
CYCLOHEXANOL		
CAS	108-93-0 5 ≤ x < 9	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
ROSIN		
CAS	8050-09-7 5 ≤ x < 9	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
Eucalyptus Oil		
CAS	8000-48-4 2,5 ≤ x < 5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
1,2,3,4-tetrahydronaphthalene		
CAS	119-64-2 2,5 ≤ x < 5	Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 2 H411, EUH019
EC	204-340-2	
INDEX	601-045-00-4	
Reg. no.	01-2119539463-37-XXXX	
ASPHALT		
CAS	12002-43-6 1 ≤ x < 5	
EC		
INDEX		
Lavandin Essential oil		
CAS	8022-15-9 1 ≤ x < 5	Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 3 H412
EC		
INDEX		
Eucalyptus globulus oil		
CAS	84625-32-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
Mercaptide of Ag		
CAS	1 ≤ x < 5	Flam. Sol. 1 H228
EC	945-657-2	
INDEX		
Eucaliptol		
CAS	470-82-6 1 ≤ x < 5	Flam. Liq. 3 H226, Skin Sens. 1 H317
EC	207-431-5	
INDEX		
Reg. no.	01-2119967772-24-0000	

SECTION 3. Composition/information on ingredients ... / >>

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

CAS 64742-82-1 1 ≤ x < 2,5 **Flam. Liq. 3 H226, STOT RE 1 H372, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P**

EC 919-446-0

INDEX

Reg. no. 01-2119458049-33

Linalool

CAS 78-70-6 1 ≤ x < 5 **Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317**

EC 201-134-4

INDEX

Reg. no. 01-2119474016-42-0000

(R)-P-MENTHA-1,8-DIENE

CAS 5989-27-5 1 ≤ x < 2,5 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C**

EC 227-813-5

INDEX 601-029-00-7

Reg. no. 01-2119529223-47-000

Alpha-Pinene

CAS 80-56-8 0,5 ≤ x < 1 **Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**

EC 201-291-8

INDEX

Reg. no. 01-2119519223-49-0000

Eugenol

CAS 97-53-0 0,5 ≤ x < 1 **Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317**

EC

INDEX

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0,5 ≤ x < 1 **Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066**

EC 203-550-1

INDEX

606-004-00-4

Reg. no. 01-2119473980-30

Camphene

CAS 79-92-5 0,25 ≤ x < 0,5 **Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**

EC 201-234-8

INDEX

Reg. no. 01-2119446293-40-XXXX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317**

EC 242-060-2

INDEX

Malaleuca alternifolia extract

CAS 85085-48-9 0,25 ≤ x < 0,5 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**

EC

INDEX

CYCLOHEXANONE

CAS 108-94-1 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315**

EC 203-631-1

INDEX 606-010-00-7

Reg. no. 01-2119453616-35

ETHYL ACETATE

CAS 141-78-6 0 ≤ x < 0,5 **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066**

EC 205-500-4

INDEX

607-022-00-5

Reg. no. 01-2119475103-46

Anethole

CAS 104-46-1 0 ≤ x < 0,5 **Skin Sens. 1 H317**

EC 2032055

INDEX

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**

EC 232-077-3

INDEX

SECTION 3. Composition/information on ingredients ... / >>

TOLUENE

CAS 108-88-3 $0 \leq x < 0,5$

Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336

EC 203-625-9
 INDEX 601-021-00-3

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 $0 \leq x < 0,5$

Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C

EC 215-535-7
 INDEX 601-022-00-9

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency

SECTION 6. Accidental release measures ... / >>

procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVLNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir

SECTION 8. Exposure controls/personal protection ... />>

GBR United Kingdom EH40/2005 Workplace exposure limits (Third edition, published 2018)
 EU OEL EU Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
 TLV-ACGIH ACGIH 2019

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

SECTION 8. Exposure controls/personal protection ... / >>

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

1,2,3,4-tetrahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		50				

ASPHALT

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		5				

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

CYCLOHEXANONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

SECTION 8. Exposure controls/personal protection ... / >>

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties ... / >>

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	red	
Odour	characteristic	
Odour threshold	Not available	
pH	Not applicable	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	36 < T ≤ 44 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	80 cP	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 27,32 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

TOLUENE

Avoid exposure to: light.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric

SECTION 10. Stability and reactivity ... / >>

acid,fluorine.
In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.
May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.
Fire hazard.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic acid, organic nitrocompounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

1,2,3,4-tetrahydronaphthalene
Informazioni riferite al 1,2,3,4-tetraidronaftalene:
LD50 orale ratto : 2860 mg/Kg
LD50 pelle coniglio: 16710 mg/Kg
Pelle : moderatamente irritante
Non sensibilizzante
Occhi : non irritante.

SECTION 11. Toxicological information ... / >>

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

NOAEL: 300 mg/Kg (cronica, orale, animale, 2 anni); LOAEC (inalazione, vapore, 90 giorni): 345 ppm; NOAEC(inalazione, rat, vapore): 300 mg/m³; NOAEL (orale, rat, 90 giorni): >= 495 mg/Kg; NOAEC (inalazione, rat, vapore, 90 giorni): 690 ppm; NOAEL (subacuta, orale, animale, 28 giorni):1056 mg/Kg.

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:

> 20 mg/l

ATE (Oral) of the mixture:

847,46 mg/kg

ATE (Dermal) of the mixture:

>2000 mg/kg

SECTION 11. Toxicological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat
TURPENTINE	
LD50 (Oral)	5760 mg/kg Rat
TOLUENE	
LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat
4-METHYLPENTAN-2-ONE	
LD50 (Oral)	2080 mg/kg Rat
LD50 (Dermal)	> 16000 mg/kg Rabbit
LC50 (Inhalation)	> 8,2 mg/l/4h Rat
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)	
LD50 (Oral)	> 15000 mg/kg Rat
LD50 (Dermal)	> 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.
 Contains:
 L - alpha - pinen
 Anethole
 Malaleuca alternifolia extract
 (-)-Pin-2(10)-Ene
 Eugenol
 Alpha-Pinene

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Suspected of causing cancer

TOLUENE
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

XYLENE (MIXTURE OF ISOMERS)
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

SECTION 11. Toxicological information ... / >>

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water	100 - 1000 mg/l
Degradability: information not available	

TURPENTINE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ROSIN

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

(R)-P-MENTHA-1,8-DIENE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

TOLUENE

Solubility in water	100 - 1000 mg/l
Rapidly degradable	

CYCLOHEXANOL

Solubility in water	36000 mg/l
Rapidly degradable	

4-METHYLPENTAN-2-ONE

Solubility in water	> 10000 mg/l
Rapidly degradable	

CYCLOHEXANONE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ETHYL ACETATE

Solubility in water	> 10000 mg/l
Rapidly degradable	

SECTION 12. Ecological information ... / >>

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23
(R)-P-MENTHA-1,8-DIENE	
Partition coefficient: n-octanol/water	4,38
BCF	1022
TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	1,9
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
ROSIN	
Partition coefficient: soil/water	3,7289
4-METHYLPENTAN-2-ONE	
Partition coefficient: soil/water	2,008
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, <u>S-E</u>	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

SECTION 15. Regulatory information ... / >>

Point	3 - 40	
<u>Contained substance</u>		
Point	48	TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SECTION 16. Other information ... / >>

H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

SECTION 16. Other information ... / >>

This document must not be regarded as a guarantee on any specific product property. The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 09.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LVP--000016**
 Product name: **Lustrò verde**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel: **+39 0571 7091**
 Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Acute toxicity, category 4	H332	Harmful if inhaled.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H302+H332** Harmful if swallowed or if inhaled.
- H304** May be fatal if swallowed and enters airways.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains:
 - terpinolen
 - (-)-Pin-2(10)-Ene
 - Alpha-Pinene
 - Eucaliptol
 - Eucaliptus globulus oil
 - (R)-P-MENTHA-1,8-DIENE
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains:

- TURPENTINE
- Anethole
- Eucalyptus Oil
- ROSIN
- Linalool

2.3. Other hazards

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

SECTION 3. Composition/information on ingredients

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
ROSIN		
CAS	8050-09-7 25 ≤ x < 40	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
CYCLOHEXANOL		
CAS	108-93-0 10 ≤ x < 20	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
Eucalyptus Oil		
CAS	8000-48-4 9 ≤ x < 10	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
Titanium tetraisopropanolate		
CAS	546-68-9 1 ≤ x < 5	Eye Irrit. 2 H319, STOT SE 3 H336
EC	208-909-6	
INDEX		
Reg. no.	01-2119967389-17-xxxx	
Decahydronaphthalene		
CAS	91-17-8 1 ≤ x < 2,5	Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10
EC	202-046-9	
INDEX		
Reg. no.	01-2119565127-37-XXXX	
Synthetic Camphor		
CAS	76-22-2 1 ≤ x < 5	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	
Anethole		
CAS	104-46-1 1 ≤ x < 5	Skin Sens. 1 H317
EC	2032055	
INDEX		
Methylcyclohexanol		
CAS	25639-42-3 1 ≤ x < 5	Acute Tox. 4 H332
EC	247-152-6	
INDEX		
(R)-P-MENTHA-1,8-DIENE		
CAS	5989-27-5 0,5 ≤ x < 1	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C
EC	227-813-5	
INDEX	601-029-00-7	
Reg. no.	01-2119529223-47-000	
CYCLOHEXANE		
CAS	110-82-7 0,5 ≤ x < 1	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC	203-806-2	
INDEX	601-017-00-1	

SECTION 3. Composition/information on ingredients ... / >>

Eucaliptus globulus oil

CAS 84625-32-1 0,5 ≤ x < 1 **Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411**
EC 283-406-2
INDEX
Reg. no. 2119978250-37-0000

Eucaliptol

CAS 470-82-6 0,5 ≤ x < 1 **Flam. Liq. 3 H226, Skin Sens. 1 H317**
EC 207-431-5
INDEX
Reg. no. 01-2119967772-24-0000

Alpha-Pinene

CAS 80-56-8 0,25 ≤ x < 0,5 **Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
EC 201-291-8
INDEX
Reg. no. 01-2119519223-49-0000

TOLUENE

CAS 108-88-3 0 ≤ x < 0,5 **Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336**
EC 203-625-9
INDEX

601-021-00-3

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C**
EC 215-535-7
INDEX

601-022-00-9

Camphene

CAS 79-92-5 0,25 ≤ x < 0,5 **Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
EC 201-234-8
INDEX
Reg. no. 01-2119446293-40-XXXX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317**
EC 242-060-2
INDEX

terpinolen

CAS 586-62-9 0 ≤ x < 0,25 **Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
EC 209-578-0
INDEX
Reg. no. 01-2119982325-32-XXXX

ETHYL ACETATE

CAS 141-78-6 0 ≤ x < 0,5 **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066**
EC 205-500-4
INDEX
Reg. no. 01-2119475103-46

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0 ≤ x < 0,5 **Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066**
EC 203-550-1
INDEX
Reg. no. 01-2119473980-30

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

SECTION 4. First aid measures ... / >>

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures**5.1. Extinguishing media****SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture**HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters**GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage**7.1. Precautions for safe handling**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous

SECTION 7. Handling and storage ... / >>

stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVLNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

SECTION 8. Exposure controls/personal protection ... / >>

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD	1				
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

SECTION 8. Exposure controls/personal protection ... / >>

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

Methylcyclohexanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			50			

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

CYCLOHEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	700	200			
TLV	CZE	700	200,2	2000	572	
AGW	DEU	700	200	2800	800	
MAK	DEU	700	200	2800	800	
VLA	ESP	700	200			
VLEP	FRA	700	200	1300	375	11
TLV	GRC	700	200			
VLEP	ITA	350	100			
TGG	NLD	700		1400		
VLE	PRT	700	200			
NDS/NDSch	POL	300		1000		SKIN
TLV	ROU	700	200			
MV	SVN	700	200	2800	800	
ESD	TUR	700	200			
WEL	GBR	350	100	1050	300	
OEL	EU	700	200			
TLV-ACGIH		344	100			

SECTION 8. Exposure controls/personal protection ... / >>

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

SECTION 8. Exposure controls/personal protection ... / >>

When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	32 T ≤ 37 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 29,48 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

TOLUENE

Avoid exposure to: light.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

CYCLOHEXANE

May react violently with: strong oxidants, liquid nitric oxide. Forms explosive mixtures with: air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic acid, organic nitrocompounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

CYCLOHEXANE

Incompatible materials: natural rubbers, neoprene, polyvinyl chloride, polyethylene.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

SECTION 10. Stability and reactivity ... / >>

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

CYCLOHEXANE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

CYCLOHEXANE

Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the cyclohexanone, its metabolite.

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

CYCLOHEXANE

The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	18,59 mg/l
ATE (Oral) of the mixture:	1000,00 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

SECTION 11. Toxicological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat
TURPENTINE	
LD50 (Oral)	5760 mg/kg Rat
CYCLOHEXANE	
LD50 (Oral)	> 5000 mg/kg Rat
LD50 (Dermal)	> 2000 mg/kg Rabbit
LC50 (Inhalation)	13,9 mg/l/4h Rat
TOLUENE	
LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat
4-METHYLPENTAN-2-ONE	
LD50 (Oral)	2080 mg/kg Rat
LD50 (Dermal)	> 16000 mg/kg Rabbit
LC50 (Inhalation)	> 8,2 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

- terpinolen
- (-)-Pin-2(10)-Ene
- Alpha-Pinene
- Eucaliptol
- Eucaliptus globulus oil
- (R)-P-MENTHA-1,8-DIENE

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

XYLENE (MIXTURE OF ISOMERS)
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

SECTION 11. Toxicological information ... / >>

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

CYCLOHEXANE

LC50 - for Fish	4,53 mg/l/96h Pimephales promelas
EC50 - for Crustacea	3,89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h Chlorella vulgaris

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water	100 - 1000 mg/l
Degradability: information not available	

TURPENTINE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ROSIN

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

(R)-P-MENTHA-1,8-DIENE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

CYCLOHEXANE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

TOLUENE

Solubility in water	100 - 1000 mg/l
Rapidly degradable	

CYCLOHEXANOL

Solubility in water	36000 mg/l
Rapidly degradable	

4-METHYLPENTAN-2-ONE

Solubility in water	> 10000 mg/l
Rapidly degradable	

SECTION 12. Ecological information ... / >>

ETHYL ACETATE
 Solubility in water > 10000 mg/l
 Rapidly degradable

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)
 Partition coefficient: n-octanol/water 3,12
 BCF 25,9

ROSIN
 Partition coefficient: n-octanol/water 3
 BCF 56,23

(R)-P-MENTHA-1,8-DIENE
 Partition coefficient: n-octanol/water 4,38
 BCF 1022

CYCLOHEXANE
 Partition coefficient: n-octanol/water 3,44

TOLUENE
 Partition coefficient: n-octanol/water 2,73
 BCF 90

CYCLOHEXANOL
 Partition coefficient: n-octanol/water 1,25

4-METHYLPENTAN-2-ONE
 Partition coefficient: n-octanol/water 1,9

ETHYL ACETATE
 Partition coefficient: n-octanol/water 0,68
 BCF 30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)
 Partition coefficient: soil/water 2,73

ROSIN
 Partition coefficient: soil/water 3,7289

CYCLOHEXANE
 Partition coefficient: soil/water 2,89

4-METHYLPENTAN-2-ONE
 Partition coefficient: soil/water 2,008

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations ... / >>

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30 Special Provision: -	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo: Pass.: Special Instructions:	Maximum quantity: 220 L Maximum quantity: 60 L A3, A72, A192	Packaging instructions: 366 Packaging instructions: 355

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product		
Point	3 - 40	
Contained substance		
Point	57	CYCLOHEXANE
Point	48	TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H361d	Suspected of damaging the unborn child.
H331	Toxic if inhaled.
H302+H332	Harmful if swallowed or if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.

SECTION 16. Other information ... / >>

H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website

SECTION 16. Other information ... / >>

- ECHA website- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

08 / 09.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LAP--000008**
 Product name: **Lustrò Arancio Chiaro**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA ITALIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel: **+39 0571 7091**
 Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H225** Highly flammable liquid and vapour.
- H361d** Suspected of damaging the unborn child.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.
- EUH208** Contains: Linalool
Anethole
May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains: TOLUENE
 TURPENTINE
 Eucalyptus Oil
 ROSIN

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
ROSIN		
CAS	8050-09-7 9 ≤ x < 25	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	

SECTION 3. Composition/information on ingredients ... / >>

Reg. no. 01-2119553060-53

CYCLOHEXANOL

CAS 108-93-0 10 ≤ x < 20

EC 203-630-6

INDEX 603-009-00-3

Reg. no. 01-2119447488-26-XXXX

Eucalyptus Oil

CAS 8000-48-4 5 ≤ x < 9

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC

INDEX

CYCLOHEXANE

CAS 110-82-7 5 ≤ x < 9

Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336,

EC 203-806-2

INDEX 601-017-00-1

Synthetic Camphor

CAS 76-22-2 1 ≤ x < 5

Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315,

EC 200-945-0

INDEX

TOLUENE

CAS 108-88-3 3 ≤ x < 5

Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373,

EC 203-625-9

INDEX 601-021-00-3

N-BUTYL ACETATE

CAS 123-86-4 1 ≤ x < 5

EC 204-658-1

INDEX 607-025-00-1

Reg. no. 01-2119485493-29

CYCLOHEXANONE

CAS 108-94-1 1 ≤ x < 3

Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332,

EC 203-631-1

INDEX 606-010-00-7

Reg. no. 01-2119453616-35

Methylcyclohexanol

CAS 25639-42-3 1 ≤ x < 5

EC 247-152-6

INDEX

Fatty acids, C6-19-branched, iron salts

CAS 68308-20-3 1 ≤ x < 5

EC 269-635-0

INDEX

ETHYL ACETATE

CAS 141-78-6 0,5 ≤ x < 1

EC 205-500-4

INDEX 607-022-00-5

Reg. no. 01-2119475103-46

ACETONE

CAS 67-64-1 0,5 ≤ x < 1

EC 200-662-2

INDEX 606-001-00-8

Reg. no. 01-2119471330-49-XXXX

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 0,5 ≤ x < 1

Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315,

EC 215-535-7

INDEX 601-022-00-9

Anethole

CAS 104-46-1 0 ≤ x < 0,5

EC 2032055

INDEX

Skin Sens. 1 H317

SECTION 3. Composition/information on ingredients ... / >>

Linalool

CAS	78-70-6	0 ≤ x < 0,5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4		
INDEX			
Reg. no.	01-2119474016-42-0000		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
 The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
 None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
 Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).
 The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION
 Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
 Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
 Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.
 Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

SECTION 6. Accidental release measures ... / >>

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nariadení vlády č. 246/2018 Sb. Nariadení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU)

SECTION 8. Exposure controls/personal protection ... / >>

2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
 TLV-ACGIH ACGIH 2020

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic local	Chronic systemic	Effects on workers		
	Acute local	Acute systemic				Acute local	Acute systemic	Chronic local
Oral					1,065 mg/kg bw/d			
Inhalation							10 mg/m3	
Skin					1,065 mg/kg bw/d			2,131 mg/kg bw/d

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	700	200			
TLV	CZE	700	200,2	2000	572	
AGW	DEU	700	200	2800	800	
MAK	DEU	700	200	2800	800	
VLA	ESP	700	200			
VLEP	FRA	700	200	1300	375	11
TLV	GRC	700	200			
VLEP	ITA	350	100			
TGG	NLD	700		1400		
VLE	PRT	700	200			
NDS/NDSch	POL	300		1000		SKIN
TLV	ROU	700	200			
MV	SVN	700	200	2800	800	
ESD	TUR	700	200			
WEL	GBR	350	100	1050	300	
OEL	EU	700	200			
TLV-ACGIH		344	100			

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

SECTION 8. Exposure controls/personal protection ... / >>

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	710		950		
TLV	CZE	950	196,65	1200	248,4	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
TLV	GRC	710	150	950	200	
TGG	NLD	150				
NDS/NDSch	POL	240		720		
TLV	ROU	715	150	950	200	
MV	SVN	300	62	600	124	
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg
Normal value for marine water sediment	0,0981	mg/kg
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	0,0903	mg/kg

CYCLOHEXANONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

Methylcyclohexanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			50			

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

ACETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	600		1400		
TLV	CZE	800	331,2	1500	621	
AGW	DEU	1200	500	2400 (C)	1000 (C)	
MAK	DEU	1200	500	2400	1000	
VLEP	FRA	1210	500	2420	1000	
TLV	GRC	1780		3560		
VLEP	ITA	1210	500			
TGG	NLD	1210		2420		
VLE	PRT	1210	500			
NDS/NDSch	POL	600		1800		
TLV	ROU	1210	500			
MV	SVN	1210	500	2420	1000	
ESD	TUR	1210	500			
WEL	GBR	1210	500	3620	1500	
OEL	EU	1210	500			
TLV-ACGIH			250		500	

SECTION 8. Exposure controls/personal protection ... / >>

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	

SECTION 9. Physical and chemical properties ... / >>

Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	0 °C
Initial boiling point	Not available
Boiling range	Not available
Flash point	16 < T ≤ 19 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not applicable
Upper inflammability limit	Not applicable
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 45,14 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

TOLUENE

Avoid exposure to: light.

N-BUTYL ACETATE

Decomposes on contact with: water.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

ACETONE

Decomposes under the effect of heat.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

CYCLOHEXANE

May react violently with: strong oxidants, liquid nitric oxide. Forms explosive mixtures with: air.

TOLUENE

SECTION 10. Stability and reactivity ... / >>

Risk of explosion on contact with: fuming sulphuric acid,nitric acid,silver perchlorate,nitrogen dioxide,non-metal halogenates,acetic acid,organic nitrocompounds.May form explosive mixtures with: air.May react dangerously with: strong oxidising agents,strong acids,sulphur.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide,nitric acid,heat,mineral acids.May react violently with: oxidising agents.Forms explosive mixtures with: air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

ACETONE

Risk of explosion on contact with: bromine trifluoride,fluorine dioxide,hydrogen peroxide,nitrosyl chloride,2-methyl-1,3 butadiene,nitromethane,nitrosyl perchlorate.May react dangerously with: potassium tert-butoxide,alkaline hydroxides,bromine,bromoform,isoprene,sodium,sulphur dioxide,chromium trioxide,chromyl chloride,nitric acid,chloroform,peroxymonosulphuric acid,phosphoryl oxychloride,chromosulphuric acid,fluorine,strong oxidising agents,strong reducing agents.Develops flammable gas on contact with: nitrosyl perchlorate.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat,naked flames.

N-BUTYL ACETATE

Avoid exposure to: moisture,sources of heat,naked flames.

CYCLOHEXANONE

Avoid exposure to: sources of heat,naked flames.

ETHYL ACETATE

Avoid exposure to: light,sources of heat,naked flames.

ACETONE

Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants.Incompatible materials: plastic materials.

CYCLOHEXANE

Incompatible materials: natural rubbers,neoprene,polyvinyl chloride,polyethylene.

N-BUTYL ACETATE

Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

ACETONE

Incompatible with: acids,oxidising substances.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes,monocyclic terpenes,hydroterpenes,pyrones,cymenes.

ACETONE

May develop: ketenes,irritant substances.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

SECTION 11. Toxicological information ... / >>

Information on likely routes of exposure

CYCLOHEXANE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

CYCLOHEXANE

Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the cyclohexanone, its metabolite.

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

N-BUTYL ACETATE

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

CYCLOHEXANE

The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	943,40 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

SECTION 11. Toxicological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat
TURPENTINE	
LD50 (Oral)	5760 mg/kg Rat
CYCLOHEXANE	
LD50 (Oral)	> 5000 mg/kg Rat
LD50 (Dermal)	> 2000 mg/kg Rabbit
LC50 (Inhalation)	13,9 mg/l/4h Rat
TOLUENE	
LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat
N-BUTYL ACETATE	
LD50 (Oral)	> 6400 mg/kg Rat
LD50 (Dermal)	> 5000 mg/kg Rabbit
LC50 (Inhalation)	21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.
 Contains:
 Linalool
 Anethole

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

XYLENE (MIXTURE OF ISOMERS)
 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Suspected of damaging the unborn child

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

CYCLOHEXANE	
LC50 - for Fish	4,53 mg/l/96h Pimephales promelas
EC50 - for Crustacea	3,89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h Chlorella vulgaris

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water 100 - 1000 mg/l
 Degradability: information not available

TURPENTINE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ROSIN

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

CYCLOHEXANE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

TOLUENE

Solubility in water 100 - 1000 mg/l
 Rapidly degradable

CYCLOHEXANOL

Solubility in water 36000 mg/l
 Rapidly degradable

ACETONE

Rapidly degradable

CYCLOHEXANONE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ETHYL ACETATE

Solubility in water > 10000 mg/l
 Rapidly degradable

N-BUTYL ACETATE

Solubility in water 1000 - 10000 mg/l

12.3. Bioaccumulative potential

SECTION 12. Ecological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23
CYCLOHEXANE	
Partition coefficient: n-octanol/water	3,44
TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
ACETONE	
Partition coefficient: n-octanol/water	-0,23
BCF	3
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30
N-BUTYL ACETATE	
Partition coefficient: n-octanol/water	2,3
BCF	15,3

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
ROSIN	
Partition coefficient: soil/water	3,7289
CYCLOHEXANE	
Partition coefficient: soil/water	2,89
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18
N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	H1N - Kemler: 33 Special provision: 640D	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	Packaging instructions: 364
IATA:	Cargo: Pass.: Special provision:	Maximum quantity: 60 L Maximum quantity: 5 L A3, A72, A192	Packaging instructions: 353

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product Point 3 - 40

SECTION 15. Regulatory information ... / >>

Contained substance		
Point	57	CYCLOHEXANE
Point	48	TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H361d	Suspected of damaging the unborn child.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

SECTION 16. Other information ... / >>

- ADR: European Agreement concerning the carriage of Dangerous goods by Road- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
 17. Regulation (EU) 2019/1148
 18. Regulation (EU) 2020/217 (XIV Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

SECTION 16. Other information ... / >>

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

02 / 08 / 09 / 14.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **OMC--001180**
Product name: **Oro Matt**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBRIA ITALIA S.P.A.**
Full address: **via Pietramarina 53**
District and Country: **50053 Sovigliana - Vinci (FI) Italia**
Tel: **+39 0571 7091**
Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Reproductive toxicity, category 1B	H360Df	May damage the unborn child. Suspected of damaging fertility.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, acute toxicity, category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H360Df** May damage the unborn child. Suspected of damaging fertility.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H318** Causes serious eye damage.
- H315** Causes skin irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains:
 - L - alpha - pinen
 - Malaleuca alternifolia extract
 - terpinolen
 - (-)-Pin-2(10)-Ene
 - ROSIN
 - Eugenol
 - Alpha-Pinene

May produce an allergic reaction.

Restricted to professional users.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P201** Obtain special instructions before use.
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P310** Immediately call a POISON CENTER / doctor / . . .

Contains: TETRAHYDROFURFURYL ALCOHOL
TURPENTINE
SILVER OXIDE
Anethole
Eucalyptus Oil
ROSIN
(R)-P-MENTHA-1,8-DIENE
Eucaliptus globulus oil
Eucaliptol
Linalool

2.3. Other hazards

vPvB substances contained:
Camphene

PBT substances contained:
Camphene

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Au Resinate		
CAS	9 ≤ x < 25	Flam. Sol. 1 H228
EC	945-694-4	
INDEX		
CHLOROBENZENE		
CAS	108-90-7 5 ≤ x < 9	Flam. Liq. 3 H226, Acute Tox. 4 H332, Skin Irrit. 2 H315, Aquatic Chronic 2 H411
EC	203-628-5	
INDEX	602-033-00-1	
Reg. no.	01-2119432722-45	
SILVER OXIDE		
CAS	20667-12-3 5 ≤ x < 9	Ox. Sol. 1 H271, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=1
EC	243-957-1	
INDEX		
Reg. no.	01-2119513370-54-xxxx	
Synthetic Camphor		
CAS	76-22-2 5 ≤ x < 9	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
Eucalyptus Oil		
CAS	8000-48-4 5 ≤ x < 9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
TURPENTINE		
CAS	8006-64-2 5 ≤ x < 9	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
ROSIN		
CAS	8050-09-7 5 ≤ x < 9	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	
Decahydronaphthalene		
CAS	91-17-8 1 ≤ x < 2,5	Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10
EC	202-046-9	
INDEX		
Reg. no.	01-2119565127-37-XXXX	
Eucaliptus globulus oil		
CAS	84625-32-1 1 ≤ x < 2,5	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
(R)-P-MENTHA-1,8-DIENE		
CAS	5989-27-5 1 ≤ x < 2,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note/notes according to Annex VI to the CLP Regulation: C
EC	227-813-5	
INDEX	601-029-00-7	
Reg. no.	01-2119529223-47-000	

SECTION 3. Composition/information on ingredients ... / >>

BENZYL ALCOHOL

CAS 100-51-6 1 ≤ x < 5 Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319
EC 202-859-9
INDEX 603-057-00-5
Reg. no. 01-2119492630-38-0000

Anethole

CAS 104-46-1 1 ≤ x < 5 Skin Sens. 1 H317
EC 2032055
INDEX

Eucaliptol

CAS 470-82-6 1 ≤ x < 5 Flam. Liq. 3 H226, Skin Sens. 1 H317
EC 207-431-5
INDEX
Reg. no. 01-2119967772-24-0000

CYCLOHEXANOL

CAS 108-93-0 1 ≤ x < 5 Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC 203-630-6
INDEX 603-009-00-3
Reg. no. 01-2119447488-26-XXXX

Alpha-Pinene

CAS 80-56-8 0,5 ≤ x < 1 Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 201-291-8
INDEX
Reg. no. 01-2119519223-49-0000

TETRAHYDROFURFURYL ALCOHOL

CAS 97-99-4 0,5 ≤ x < 1 Repr. 1B H360Df, Eye Irrit. 2 H319
EC 202-625-6
INDEX 603-061-00-7

Eugenol

CAS 97-53-0 0,5 ≤ x < 1 Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
EC
INDEX

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0,5 ≤ x < 1 Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
EC 203-550-1
INDEX 606-004-00-4
Reg. no. 01-2119473980-30

Camphene

CAS 79-92-5 0,5 ≤ x < 1 Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 201-234-8
INDEX
Reg. no. 01-2119446293-40-XXXX

ROSIN

CAS 8050-09-7 0 ≤ x < 0,5 Skin Sens. 1 H317
EC 232-475-7
INDEX 650-015-00-7
Reg. no. 01-2119480418-32-XXXX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC 242-060-2
INDEX

2-METHOXY-1-METHYLETHYL ACETATE

CAS 108-65-6 0 ≤ x < 0,5 Flam. Liq. 3 H226
EC 203-603-9
INDEX 607-195-00-7
Reg. no. 01-2119475791-29-XXXX

terpinolen

CAS 586-62-9 0 ≤ x < 0,25 Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 209-578-0
INDEX
Reg. no. 01-2119982325-32-XXXX

CYCLOHEXANONE

CAS 108-94-1 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC 203-631-1
INDEX 606-010-00-7

SECTION 3. Composition/information on ingredients ... / >>

Reg. no. 01-2119453616-35

Malaleuca alternifolia extract

CAS 85085-48-9 0 ≤ x < 0,25

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC

INDEX

L - alpha - pinen

CAS 7785-26-4 0 ≤ x < 0,25

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 232-077-3

INDEX

DIESEL OIL - not specified

CAS 68476-34-6 0 ≤ x < 0,5

Carc. 2 H351

EC 270-676-1

INDEX 649-227-00-2

TOLUENE

CAS 108-88-3 0 ≤ x < 0,5

Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336

EC 203-625-9

INDEX 601-021-00-3

N-BUTYL ACETATE

CAS 123-86-4 0 ≤ x < 0,5

Flam. Liq. 3 H226, STOT SE 3 H336, EUH066

EC 204-658-1

INDEX 607-025-00-1

Reg. no. 01-2119485493-29

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 0 ≤ x < 0,5

Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note/notes according to Annex VI to the CLP Regulation: C

EC 215-535-7

INDEX 601-022-00-9

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

SECTION 5. Firefighting measures ... / >>

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte

SECTION 8. Exposure controls/personal protection ... / >>

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

CHLORO BENZENE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	23	5	70	15	
TLV	CZE	25	6,8	70	19,04	
AGW	DEU	23	5	46	10	
MAK	DEU	23	5	46	10	
VLA	ESP	23	5	70	15	
VLEP	FRA	23	5	70	15	
TLV	GRC	23	5	70	15	
VLEP	ITA	23	5	70	15	
TGG	NLD	23		70		
VLE	PRT	23	5	70	15	
NDS/NDSch	POL	23		70		
TLV	ROU	23	5	70	15	
MV	SVN	23	5	69	15	
ESD	TUR	23	5	70	15	
WEL	GBR	4,7	1	14	3	SKIN
OEL	EU	23	5	70	15	
TLV-ACGIH		46	10			

SILVER OXIDE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		0,01				

Synthetic Camphor

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

SECTION 8. Exposure controls/personal protection ... / >>

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

ROSIN

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local	Chronic systemic	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation				1,065 mg/kg			10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

BENZYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	5				
TLV	CZE	40	8,88	80	17,76	
AGW	DEU	22	5	44	10	SKIN 11
NDS/NDSch	POL	240				
MV	SVN	22	5	44	10	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

4-METHYLPENTAN-2-ONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

ROSIN

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065				
				mg/kg bw/d				
Inhalation							10	
							mg/m3	
Skin				1,065				2,131
				mg/kg bw/d				mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

2-METHOXY-1-METHYLETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	275	50	550	100	SKIN
TLV	CZE	270	49,14	550	100,1	SKIN
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	ESP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
TLV	GRC	275	50	550	100	
VLEP	ITA	275	50	550	100	SKIN
TGG	NLD	550				
VLE	PRT	275	50	550	100	SKIN
NDS/NDSch	POL	260		520		SKIN
TLV	ROU	275	50	550	100	SKIN
MV	SVN	275	50	550	100	SKIN
ESD	TUR	275	50	550	100	SKIN
WEL	GBR	274	50	548	100	SKIN
OEL	EU	275	50	550	100	SKIN

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,635	mg/l
Normal value for fresh water sediment	3,29	mg/kg
Normal value for marine water sediment	0,329	mg/kg
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,29	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	1,67 mg/kg				
Inhalation			VND	33 mg/m3			VND	275 mg/m3
Skin			VND	54,8 mg/kg			VND	153,5 mg/kg

CYCLOHEXANONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	710		950		
TLV	CZE	950	196,65	1200	248,4	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
TLV	GRC	710	150	950	200	
TGG	NLD	150				
NDS/NDSch	POL	240		720		
TLV	ROU	715	150	950	200	
MV	SVN	300	62	600	124	
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg
Normal value for marine water sediment	0,0981	mg/kg
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	0,0903	mg/kg

SECTION 8. Exposure controls/personal protection ... / >>

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	

SECTION 9. Physical and chemical properties ... / >>

Colour	brown
Odour	characteristic
Odour threshold	Not available
pH	Not applicable
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	35 < T ≤ 38 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not applicable
Upper inflammability limit	Not applicable
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not applicable
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 25,54 % - 255,43 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F.Possibility of explosion.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals.Attacks various types of plastic materials.

2-METHOXY-1-METHYLETHYL ACETATE

Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

TOLUENE

Avoid exposure to: light.

N-BUTYL ACETATE

Decomposes on contact with: water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid, iron, oxidising agents, sulphuric acid. Risk of explosion on contact with: phosphorus

SECTION 10. Stability and reactivity ... / >>

trichloride.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

2-METHOXY-1-METHYLETHYL ACETATE

May react violently with: oxidising substances, strong acids, alkaline metals.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic acid, organic nitrocompounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

BENZYL ALCOHOL

Avoid exposure to: air, sources of heat, naked flames.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

N-BUTYL ACETATE

Avoid exposure to: moisture, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

BENZYL ALCOHOL

Incompatible with: sulphuric acid, oxidising substances, aluminium.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

2-METHOXY-1-METHYLETHYL ACETATE

Incompatible with: oxidising substances, strong acids, alkaline metals.

N-BUTYL ACETATE

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

SECTION 11. Toxicological information ... / >>

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effectsMetabolism, toxicokinetics, mechanism of action and other information

2-METHOXY-1-METHYLETHYL ACETATE

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

2-METHOXY-1-METHYLETHYL ACETATE

WORKERS: inhalation; contact with the skin.

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

2-METHOXY-1-METHYLETHYL ACETATE

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

N-BUTYL ACETATE

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

SECTION 11. Toxicological information ... / >>

ATE (Inhalation) of the mixture: > 20 mg/l
 ATE (Oral) of the mixture: 1997,40 mg/kg
 ATE (Dermal) of the mixture: >2000 mg/kg

XYLENE (MIXTURE OF ISOMERS)
 LD50 (Oral) 3523 mg/kg Rat
 LD50 (Dermal) 4350 mg/kg Rabbit
 LC50 (Inhalation) 26 mg/l/4h Rat

TURPENTINE
 LD50 (Oral) 5760 mg/kg Rat

2-METHOXY-1-METHYLETHYL ACETATE
 LD50 (Oral) 8530 mg/kg Rat
 LD50 (Dermal) > 5000 mg/kg Rat

TOLUENE
 LD50 (Oral) 5580 mg/kg Rat
 LD50 (Dermal) 12124 mg/kg Rabbit
 LC50 (Inhalation) 28,1 mg/l/4h Rat

CHLOROBENZENE
 LD50 (Oral) > 2000 mg/kg Rat
 LC50 (Inhalation) 15,5 mg/l/4h Rat

BENZYL ALCOHOL
 LD50 (Oral) 1230 mg/kg Rat
 LD50 (Dermal) 2000 mg/kg Rabbit
 LC50 (Inhalation) > 4,1 mg/l/4h Rat

TETRAHYDROFURFURYL ALCOHOL
 LD50 (Oral) 1600 mg/kg Rat

4-METHYLPENTAN-2-ONE
 LD50 (Oral) 2080 mg/kg Rat
 LD50 (Dermal) > 16000 mg/kg Rabbit
 LC50 (Inhalation) > 8,2 mg/l/4h Rat

N-BUTYL ACETATE
 LD50 (Oral) > 6400 mg/kg Rat
 LD50 (Dermal) > 5000 mg/kg Rabbit
 LC50 (Inhalation) 21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

- L - alpha - pinen
- Malaleuca alternifolia extract
- terpinolen
- (-)-Pin-2(10)-Ene
- ROSIN
- Eugenol
- Alpha-Pinene

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).

The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).

The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

May damage the unborn child - Suspected of damaging fertility

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

SILVER OXIDE

LC50 - for Fish 0,0012 mg/l/96h

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish 35 mg/l/96h *Oncorhynchus mykiss*
 EC50 - for Crustacea 69,6 mg/l/48h *Daphnia pulex*

CHLOROBENZENE

LC50 - for Fish 7,72 mg/l/96h *Pimephales promelas*

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water 100 - 1000 mg/l
 Degradability: information not available

TURPENTINE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

SECTION 12. Ecological information ... / >>

ROSIN	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
(R)-P-MENTHA-1,8-DIENE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
2-METHOXY-1-METHYLETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	
TOLUENE	
Solubility in water	100 - 1000 mg/l
Rapidly degradable	
CHLOROBENZENE	
Solubility in water	100 - 1000 mg/l
NOT rapidly degradable	
CYCLOHEXANOL	
Solubility in water	36000 mg/l
Rapidly degradable	
BENZYL ALCOHOL	
Rapidly degradable	
TETRAHYDROFURFURYL ALCOHOL	
Solubility in water	> 10000 mg/l
Rapidly degradable	
4-METHYLPENTAN-2-ONE	
Solubility in water	> 10000 mg/l
Rapidly degradable	
CYCLOHEXANONE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
N-BUTYL ACETATE	
Solubility in water	1000 - 10000 mg/l

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23
(R)-P-MENTHA-1,8-DIENE	
Partition coefficient: n-octanol/water	4,38
BCF	1022
2-METHOXY-1-METHYLETHYL ACETATE	
Partition coefficient: n-octanol/water	1,2
TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
CHLOROBENZENE	
Partition coefficient: n-octanol/water	3

SECTION 12. Ecological information ... / >>

CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
BENZYL ALCOHOL	
Partition coefficient: n-octanol/water	1,1
TETRAHYDROFURFURYL ALCOHOL	
Partition coefficient: n-octanol/water	-0,14
4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	1,9
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86
N-BUTYL ACETATE	
Partition coefficient: n-octanol/water	2,3
BCF	15,3

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
ROSIN	
Partition coefficient: soil/water	3,7289
CHLOROBENZENE	
Partition coefficient: soil/water	2,42
4-METHYLPENTAN-2-ONE	
Partition coefficient: soil/water	2,008
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18
N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL (CLOROBENZENE)
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30 Special provision: 640E	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	Packaging instructions: 366
IATA:	Cargo: Pass.: Special provision:	Maximum quantity: 220 L Maximum quantity: 60 L A3, A72, A192	Packaging instructions: 355

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product Point 3 - 40

SECTION 15. Regulatory information ... / >>

Contained substance		
Point	30	TETRAHYDROFURFURYL ALCOHOL
Point	48	TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Ox. Sol. 1	Oxidising solid, category 1
Carc. 2	Carcinogenicity, category 2
Repr. 1B	Reproductive toxicity, category 1B
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H271	May cause fire or explosion; strong oxidiser.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361d	Suspected of damaging the unborn child.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

SECTION 16. Other information ... / >>

H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
 17. Regulation (EU) 2019/1148
 18. Regulation (EU) 2020/217 (XIV Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

SECTION 16. Other information ... / >>**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 14 / 15 / 16.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LIP--000021**
Product name: **Lustro Madreperla-Iris**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA ITALIA S.P.A.**
Full address: **via Pietramarina 53**
District and Country: **50053 Sovigliana - Vinci (FI)**
Italia
Tel. **+39 0571 7091**
Fax **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains: Eucalyptus Oil
TURPENTINE
CYCLOHEXANOL
ROSIN

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
ROSIN		
CAS	8050-09-7 25 ≤ x < 40	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
CYCLOHEXANOL		
CAS	108-93-0 20 ≤ x < 25	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
Eucalyptus Oil		
CAS	8000-48-4 10 ≤ x < 25	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		

SECTION 3. Composition/information on ingredients ... / >>

TURPENTINE

CAS 8006-64-2 10 ≤ x < 25

Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC 232-350-7

INDEX 650-002-00-6

Reg. no. 01-2119553060-53

Organic Titanate

CAS 546-68-9 10 ≤ x < 20

Eye Irrit. 2 H319, STOT SE 3 H336

EC 208-909-6

INDEX

Reg. no. 01-2119967389-17-xxxx

Abalyn

CAS 68186-14-1 1 ≤ x < 5

Aquatic Chronic 3 H412

EC 269-035-9

INDEX

Reg. no. 01-2119969274-28-0001

Methylcyclohexanol

CAS 25639-42-3 1 ≤ x < 5

Acute Tox. 4 H332

EC 247-152-6

INDEX

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici

SECTION 8. Exposure controls/personal protection ... / >>

SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
GBR	United Kingdom TLV-ACGIH	EH40/2005 Workplace exposure limits (Third edition, published 2018) ACGIH 2019

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local	Chronic systemic	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065				
				mg/kg bw/d				
Inhalation							10	
							mg/m3	
Skin				1,065				2,131
				mg/kg bw/d				mg/kg bw/d

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD	1				
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

SECTION 8. Exposure controls/personal protection ... / >>

Organic Titanate

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,59	mg/l
Normal value in marine water	0,059	mg/l
Normal value of STP microorganisms	105	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation							VND	500 mg/m3

Abalyn

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,027	mg/l
Normal value in marine water	0,003	mg/l
Normal value for fresh water sediment	77,05	mg/kg
Normal value for marine water sediment	7,7	mg/kg
Normal value for water, intermittent release	0,27	mg/l
Normal value of STP microorganisms	1,26	mg/l
Normal value for the terrestrial compartment	15,35	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				3,885 mg/kg bw/d				
Inhalation							10 mg/m3	VND
Skin				3,885 mg/kg bw/d				7,77 mg/kg bw/d

Methylcyclohexanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			50			

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are

SECTION 8. Exposure controls/personal protection ... / >>

required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
 If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	0 °C	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	25 T ≤ 31 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 41,21 %

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

TURPENTINE

Dissolves rubber.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on

SECTION 10. Stability and reactivity ... / >>

contact with: calcium hypochlorite,chromium trioxide,chromium oxychloride,tin (IV) chloride.Risk of explosion on contact with: nitric acid,fluorine.

In oxygen atmospheres it generates explosive peroxides.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

CYCLOHEXANOL

Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

CYCLOHEXANOL

Incompatible with: strong oxidants.Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes,monocyclic terpenes,hydroterpenes,pyrones,cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	1000,00 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

TURPENTINE	
LD50 (Oral)	5760 mg/kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

SECTION 11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

Information not available

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

TURPENTINE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

ROSIN

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

CYCLOHEXANOL

Solubility in water	36000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

ROSIN

Partition coefficient: n-octanol/water	3
BCF	56,23

CYCLOHEXANOL

Partition coefficient: n-octanol/water	1,25
--	------

12.4. Mobility in soil

SECTION 12. Ecological information ... / >>

ROSIN
 Partition coefficient: soil/water 3,7289

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (Eucalyptus Oil)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

SECTION 14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: _____ P5c-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product	Point
	3 - 40

Substances in Candidate List (Art. 59 REACH) _____

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH) _____

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012: _____

None

Substances subject to the Rotterdam Convention: _____

None

Substances subject to the Stockholm Convention: _____

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.

SECTION 16. Other information ... / >>

H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.

SECTION 16. Other information ... / >>

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses. Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 03 / 08 / 09.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LRP--000042**
 Product name: **Lustro Rosso**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel.: **+39 0571 7091**
 Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H373** May cause damage to organs through prolonged or repeated exposure.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains: SOLVENT RED 1
 terpinolen
 L - alpha - pinen
 DIPENTENE
 Malaleuca alternifolia extract
 (-)-Pin-2(10)-Ene
 Anethole
 Alpha-Pinene
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.
- P273** Avoid release to the environment.

Contains: TURPENTINE
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 Synthetic Camphor
 Eucalyptus Oil
 Eugenol
 (R)-P-MENTHA-1,8-DIENE
 Eucaliptus globulus oil
 Eucaliptol
 Linalool

2.3. Other hazards

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

SECTION 3. Composition/information on ingredients ... / >>

Eugenol			
CAS	97-53-0	$1 \leq x < 5$	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
EC			
INDEX			
Alpha-Pinene			
CAS	80-56-8	$0,5 \leq x < 1$	Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC	201-291-8		
INDEX			
Reg. no.	01-2119519223-49-0000		
Anethole			
CAS	104-46-1	$0,5 \leq x < 1$	Skin Sens. 1 H317
EC	2032055		
INDEX			
Camphene			
CAS	79-92-5	$0,5 \leq x < 1$	Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC	201-234-8		
INDEX			
Reg. no.	01-2119446293-40-XXXX		
(-)-Pin-2(10)-Ene			
CAS	127-91-3	$0 \leq x < 0,5$	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC	242-060-2		
INDEX			
Malaleuca alternifolia extract			
CAS	85085-48-9	$0,25 \leq x < 0,5$	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC			
INDEX			
4-METHYLPENTAN-2-ONE			
CAS	108-10-1	$0 \leq x < 0,5$	Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
EC	203-550-1		
INDEX	606-004-00-4		
Reg. no.	01-2119473980-30		
ETHYL ACETATE			
CAS	141-78-6	$0 \leq x < 0,5$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC	205-500-4		
INDEX	607-022-00-5		
Reg. no.	01-2119475103-46		
DIPENTENE			
CAS	138-86-3	$0 \leq x < 0,25$	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C
EC	205-341-0		
INDEX	601-029-00-7		
L - alpha - pinen			
CAS	7785-26-4	$0 \leq x < 0,25$	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC	232-077-3		
INDEX			
terpinolen			
CAS	586-62-9	$0 \leq x < 0,25$	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC	209-578-0		
INDEX			
Reg. no.	01-2119982325-32-XXXX		
SOLVENT RED 1			
CAS	1229-55-6	$0 \leq x < 0,5$	Carc. 2 H351, Muta. 2 H341, Skin Sens. 1 H317, Aquatic Chronic 4 H413
EC	214-968-9		
INDEX			

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SECTION 4. First aid measures ... / >>

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again. INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
 INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

SECTION 8. Exposure controls/personal protection ... / >>

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			100			

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			100			

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

SECTION 8. Exposure controls/personal protection ... / >>

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are

SECTION 8. Exposure controls/personal protection ... />>

required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
 If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not available	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	39 T ≤ 43 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 22,66 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Stable in normal conditions of use and storage.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals. Attacks various types of plastic materials.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

SECTION 10. Stability and reactivity ... / >>

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Avoid contact with: strong oxidising agents.

May form explosive mixtures with: strong oxidising agents, chlorates, perchlorates, liquid oxygen.

Fire hazard.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

Incompatible with: acids, bases, strong oxidants, nitrates, chlorosulphuric acid, aluminium. Incompatible materials: plastic materials.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances, reducing substances.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

SECTION 11. Toxicological information ... / >>

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 NOAEL: 300 mg/Kg (chronic, oral, male animal, 2 years); LOAEC (inhalation, vapour, 90 dyes): 345 ppm; NOAEC(inhalation, rat, vapour): 300 mg/m³; NOAEL (oral, rat, 90 dyes): >= 495 mg/Kg; NOAEC (inhalation, rat, vapour, 90 dyes): 690 ppm; NOAEL (subacute, oral, female animal, 28 dyes): 1056 mg/Kg.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture: > 20 mg/l
 ATE (Oral) of the mixture: 909,09 mg/kg
 ATE (Dermal) of the mixture: >2000 mg/kg

TURPENTINE
 LD50 (Oral) 5760 mg/kg Rat

4-METHYLPENTAN-2-ONE
 LD50 (Oral) 2080 mg/kg Rat
 LD50 (Dermal) > 16000 mg/kg Rabbit
 LC50 (Inhalation) > 8,2 mg/l/4h Rat

Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)
 LD50 (Oral) > 15000 mg/kg Rat
 LD50 (Dermal) > 4 ml/Kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

SOLVENT RED 1

terpinolen

L - alpha - pinen

DIPENTENE

Malaleuca alternifolia extract

(-)-Pin-2(10)-Ene

Anethole

Alpha-Pinene

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

May cause damage to organs

SECTION 11. Toxicological information ... / >>

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE
 LC50 - for Fish 35 mg/l/96h Oncorhynchus mykiss
 EC50 - for Crustacea 69,6 mg/l/48h Daphnia pulex

DIPENTENE
 LC50 - for Fish 80 mg/l/96h Oncorhynchus mykiss
 EC50 - for Crustacea 17 mg/l/48h Daphnia magna

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

TURPENTINE
 Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

(R)-P-MENTHA-1,8-DIENE
 Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

DIPENTENE
 NOT rapidly degradable

4-METHYLPENTAN-2-ONE
 Solubility in water > 10000 mg/l
 Rapidly degradable

ETHYL ACETATE
 Solubility in water > 10000 mg/l
 Rapidly degradable

12.3. Bioaccumulative potential

(R)-P-MENTHA-1,8-DIENE
 Partition coefficient: n-octanol/water 4,38
 BCF 1022

DIPENTENE
 Partition coefficient: n-octanol/water 4,5

4-METHYLPENTAN-2-ONE
 Partition coefficient: n-octanol/water 1,9

ETHYL ACETATE
 Partition coefficient: n-octanol/water 0,68
 BCF 30

SECTION 12. Ecological information ... / >>

12.4. Mobility in soil

4-METHYLPENTAN-2-ONE
 Partition coefficient: soil/water 2,008

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

SECTION 14. Transport information ... / >>

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product	
Point	3 - 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
 Hydrocarbons, C9-C12 n-alkanes, ISOALCANI, CYCLIC, AROMATIC (2-25%)

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2

SECTION 16. Other information ... / >>

Muta. 2	Germ cell mutagenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H341	Suspected of causing genetic defects.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds

SECTION 16. Other information ... / >>

- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation- WGK: Water hazard classes (German).

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Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **DIL--000017**
 Product name **Diluente**
Diluente

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name **COLOROBRIA S.P.A.**
 Full address **via Pietramarina 53**
 District and Country **50053 Sovigliana - Vinci (FI)**
Italia
 Tel. **+39 0571 7091**
 Fax **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to

CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726
Az. Ospedaliera Università Foggia - Foggia - tel. 800183459
Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870
CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000
CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343
Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819
CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444
Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029
Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Acute toxicity, category 3	H331	Toxic if inhaled.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.
Hazardous to the aquatic environment, acute toxicity, category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H225** Highly flammable liquid and vapour.
- H351** Suspected of causing cancer.
- H331** Toxic if inhaled.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H314** Causes severe skin burns and eye damage.
- H317** May cause an allergic skin reaction.
- H336** May cause drowsiness or dizziness.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains: Citronella Oil, Java
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260** Do not breathe dust / fume / gas / mist / vapours / spray.
- P331** Do NOT induce vomiting.
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.

Contains: 1,2,3,4-tetrahydronaphthalene
 Decahydronaphthalene
 TURPENTINE
 CYCLOHEXANE

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
CYCLOHEXANE		
CAS	110-82-7 40 ≤ x < 60	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC INDEX	203-806-2 601-017-00-1	
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC INDEX	232-350-7 650-002-00-6	

SECTION 3. Composition/information on ingredients ... / >>

Reg. no. 01-2119553060-53

Decahydronaphthalene

CAS 91-17-8 15 ≤ x < 25

Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10

EC 202-046-9

INDEX

Reg. no. 01-2119565127-37-XXXX

ETHYL ACETATE

CAS 141-78-6 5 ≤ x < 9

Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066

EC 205-500-4

INDEX 607-022-00-5

Reg. no. 01-2119475103-46

1,2,3,4-tetrahydronaphthalene

CAS 119-64-2 2,5 ≤ x < 5

Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 2 H411, EUH019

EC 204-340-2

INDEX 601-045-00-4

Reg. no. 01-2119539463-37-XXXX

CYCLOHEXANOL

CAS 108-93-0 1 ≤ x < 5

Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335

EC 203-630-6

INDEX 603-009-00-3

Reg. no. 01-2119447488-26-XXXX

Citronella Oil, Java

CAS 8000-29-1 0,5 ≤ x < 1

Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC

INDEX

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for

health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations. SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
 Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
 Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.
 Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
 Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019

SECTION 8. Exposure controls/personal protection ... / >>

		(INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

CYCLOHEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	700	200			
TLV	CZE	700	200,2	2000	572	
AGW	DEU	700	200	2800	800	
MAK	DEU	700	200	2800	800	
VLA	ESP	700	200			
VLEP	FRA	700	200	1300	375	11
TLV	GRC	700	200			
VLEP	ITA	350	100			
TGG	NLD	700		1400		
VLE	PRT	700	200			
NDS/NDSch	POL	300		1000		SKIN
TLV	ROU	700	200			
MV	SVN	700	200	2800	800	
ESD	TUR	700	200			
WEL	GBR	350	100	1050	300	
OEL	EU	700	200			
TLV-ACGIH		344	100			

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

SECTION 8. Exposure controls/personal protection ... / >>

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

1,2,3,4-tetrahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		50				

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	transparent	
Odour	characteristic	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	0 °C	
Initial boiling point	Not available	
Boiling range	Not available	

SECTION 9. Physical and chemical properties ... / >>

Flash point	19 T ≤ 19 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not applicable
Upper inflammability limit	Not applicable
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	0,78 - 0,83
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	3 - 8 cP
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 98,30 %

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

TURPENTINE

Dissolves rubber.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

CYCLOHEXANE

May react violently with: strong oxidants, liquid nitric oxide. Forms explosive mixtures with: air.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials

CYCLOHEXANE

Incompatible materials: natural rubbers, neoprene, polyvinyl chloride, polyethylene.

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.

SECTION 10. Stability and reactivity ... / >>

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

1,2,3,4-tetrahydronaphthalene

Informazioni riferite al 1,2,3,4-tetraidronaftalene:

LD50 orale ratto : 2860 mg/Kg

LD50 pelle coniglio: 16710 mg/Kg

Pelle : moderatamente irritante

Non sensibilizzante

Occhi : non irritante.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

CYCLOHEXANE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

CYCLOHEXANE

Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the cyclohexanone, its metabolite.

Interactive effects

CYCLOHEXANE

The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	9,04 mg/l
ATE (Oral) of the mixture:	1666,67 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

TURPENTINE

LD50 (Oral) 5760 mg/kg Rat

CYCLOHEXANE

LD50 (Oral)	> 5000 mg/kg Rat
LD50 (Dermal)	> 2000 mg/kg Rabbit
LC50 (Inhalation)	13,9 mg/l/4h Rat

SECTION 11. Toxicological information ... / >>

SKIN CORROSION / IRRITATION

Corrosive for the skin

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:
 Citronella Oil, Java

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Suspected of causing cancer

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

CYCLOHEXANE	
LC50 - for Fish	4,53 mg/l/96h Pimephales promelas
EC50 - for Crustacea	3,89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h Chlorella vulgaris

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

TURPENTINE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

SECTION 12. Ecological information ... / >>

CYCLOHEXANE Solubility in water Rapidly degradable	0,1 - 100 mg/l
CYCLOHEXANOL Solubility in water Rapidly degradable	36000 mg/l
ETHYL ACETATE Solubility in water Rapidly degradable	> 10000 mg/l

12.3. Bioaccumulative potential

CYCLOHEXANE Partition coefficient: n-octanol/water	3,44
CYCLOHEXANOL Partition coefficient: n-octanol/water	1,25
ETHYL ACETATE Partition coefficient: n-octanol/water BCF	0,68 30

12.4. Mobility in soil

CYCLOHEXANE Partition coefficient: soil/water	2,89
--	------

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL (CYCLOHEXANE)
IATA: PAINT or PAINT RELATED MATERIAL

SECTION 14. Transport information ... / >>

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33 Special Provision: 640C	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo: Pass.: Special Instructions:	Maximum quantity: 60 L Maximum quantity: 5 L A3, A72, A192	Packaging instructions: 364 Packaging instructions: 353

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-H2-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>		
Point	3 - 40	
<u>Contained substance</u>		
Point	57	CYCLOHEXANE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

SECTION 15. Regulatory information ... / >>

Substances subject to the Stockholm Convention: _____
 None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Carc. 2	Carcinogenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level

SECTION 16. Other information ... / >>

- PBT: Persistent bioaccumulative and toxic as REACH Regulation - PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 03 / 04 / 08 / 09 / 11 / 12 / 15.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LPP--000004**
 Product name: **Lustrò Violetto**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBBLIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel: **+39 0571 7091**
 Fax: **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Reproductive toxicity, category 1B	H360Df	May damage the unborn child. Suspected of damaging fertility.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H360Df** May damage the unborn child. Suspected of damaging fertility.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H411** Toxic to aquatic life with long lasting effects.
- EUH208** Contains: (-)-Pin-2(10)-Ene
 SOLVENT RED 1
 DIPENTENE
 Alpha-Pinene
 Anethole
 (R)-P-MENTHA-1,8-DIENE
 Linalool
 Eucaliptol
 Eucaliptus globulus oil
 Eugenol
 May produce an allergic reaction.
 Restricted to professional users.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P201** Obtain special instructions before use.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P308+P313** IF exposed or concerned: Get medical advice / attention.
- P301+P310** IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .

Contains: TETRAHYDROFURFURYL ALCOHOL
 TURPENTINE
 Eucalyptus Oil
 ROSIN

2.3. Other hazards

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

SECTION 3. Composition/information on ingredients

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
Synthetic Camphor		
CAS	76-22-2 10 ≤ x < 20	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
CYCLOHEXANOL		
CAS	108-93-0 5 ≤ x < 9	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
ASPHALT		
CAS	12002-43-6 1 ≤ x < 5	
EC		
INDEX		
TETRAHYDROFURFURYL ALCOHOL		
CAS	97-99-4 1 ≤ x < 5	Repr. 1B H360Df, Eye Irrit. 2 H319
EC	202-625-6	
INDEX	603-061-00-7	
Eucalyptus Oil		
CAS	8000-48-4 2,5 ≤ x < 5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
Au Resinate		
CAS	1 ≤ x < 5	Flam. Sol. 1 H228
EC	945-694-4	
INDEX		
Ag Resinate		
CAS	68551-38-2 1 ≤ x < 5	Flam. Sol. 1 H228
EC	271-373-7	
INDEX		
ROSIN		
CAS	8050-09-7 1 ≤ x < 5	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
BENZYL ALCOHOL		
CAS	100-51-6 1 ≤ x < 5	Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319
EC	202-859-9	
INDEX	603-057-00-5	
Reg. no.	01-2119492630-38-0000	
Eugenol		
CAS	97-53-0 0,5 ≤ x < 1	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1 H317
EC		
INDEX		
Eucaliptus globulus oil		
CAS	84625-32-1 0,5 ≤ x < 1	Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	283-406-2	
INDEX		
Reg. no.	2119978250-37-0000	
Eucaliptol		
CAS	470-82-6 0,5 ≤ x < 1	Flam. Liq. 3 H226, Skin Sens. 1 H317
EC	207-431-5	
INDEX		
Reg. no.	01-2119967772-24-0000	

SECTION 3. Composition/information on ingredients ... / >>

Linalool

CAS 78-70-6 0,5 ≤ x < 1
 EC 201-134-4

INDEX

Reg. no. 01-2119474016-42-0000

(R)-P-MENTHA-1,8-DIENE

CAS 5989-27-5 0,5 ≤ x < 1

EC 227-813-5

INDEX 601-029-00-7

Reg. no. 01-2119529223-47-000

Anethole

CAS 104-46-1 0 ≤ x < 0,5

EC 2032055

INDEX

CYCLOHEXANONE

CAS 108-94-1 0 ≤ x < 0,5

EC 203-631-1

INDEX 606-010-00-7

Reg. no. 01-2119453616-35

Decahydronaphthalene

CAS 91-17-8 0,25 ≤ x < 0,5

EC 202-046-9

INDEX

Reg. no. 01-2119565127-37-XXXX

4-METHYLPENTAN-2-ONE

CAS 108-10-1 0 ≤ x < 0,5

EC 203-550-1

INDEX 606-004-00-4

Reg. no. 01-2119473980-30

Alpha-Pinene

CAS 80-56-8 0,25 ≤ x < 0,5

EC 201-291-8

INDEX

Reg. no. 01-2119519223-49-0000

DIPENTENE

CAS 138-86-3 0 ≤ x < 0,25

EC 205-341-0

INDEX 601-029-00-7

Camphene

CAS 79-92-5 0 ≤ x < 0,25

EC 201-234-8

INDEX

Reg. no. 01-2119446293-40-XXXX

SOLVENT RED 1

CAS 1229-55-6 0 ≤ x < 0,5

EC 214-968-9

INDEX

(-)-Pin-2(10)-Ene

CAS 127-91-3 0 ≤ x < 0,5

EC 242-060-2

INDEX

TOLUENE

CAS 108-88-3 0 ≤ x < 0,5

EC 203-625-9

INDEX 601-021-00-3

ETHYL ACETATE

CAS 141-78-6 0 ≤ x < 0,5

EC 205-500-4

INDEX 607-022-00-5

Reg. no. 01-2119475103-46

Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317,
 Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1,
 Classification note according to Annex VI to the CLP Regulation: C

Skin Sens. 1 H317

Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332,
 Eye Dam. 1 H318, Skin Irrit. 2 H315

Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314,
 Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10

Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066

Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315,
 Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1,
 Aquatic Chronic 1 H410 M=1,
 Classification note according to Annex VI to the CLP Regulation: C

Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1,
 Aquatic Chronic 1 H410 M=1

Carc. 2 H351, Muta. 2 H341, Skin Sens. 1 H317, Aquatic Chronic 4 H413

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317

Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373,
 Skin Irrit. 2 H315, STOT SE 3 H336

Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066

SECTION 3. Composition/information on ingredients ... / >>**XYLENE (MIXTURE OF ISOMERS)**CAS 1330-20-7 $0 \leq x < 0,5$ EC 215-535-7
INDEX 601-022-00-9Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315,
Classification note according to Annex VI to the CLP Regulation: C

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures**4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures**5.1. Extinguishing media**

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

SECTION 6. Accidental release measures ... / >>

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

SECTION 8. Exposure controls/personal protection ... />>

TURPENTINE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

Synthetic Camphor

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

CYCLOHEXANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

ASPHALT

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		5				

SECTION 8. Exposure controls/personal protection ... / >>

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

BENZYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	5				
TLV	CZE	40	8,88	80	17,76	
AGW	DEU	22	5	44	10	SKIN 11
NDS/NDSch	POL	240				
MV	SVN	22	5	44	10	SKIN

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

CYCLOHEXANONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

Decahydronaphthalene

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

4-METHYLPENTAN-2-ONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	50		200		
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
VLEP	ITA	83	20	208	50	
TGG	NLD	104		208		
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
TLV	ROU	83	20	208	50	
MV	SVN	83	20	208	50	SKIN
ESD	TUR	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

SECTION 8. Exposure controls/personal protection ... / >>

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSch	POL	734		1468		
TLV	ROU	400	111	500	139	
MV	SVN	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/Kg
Normal value for the terrestrial compartment	0,24	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/m3	734 mg/m3	VND	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg			VND	63 mg/kg

SECTION 8. Exposure controls/personal protection ... / >>

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	

SECTION 9. Physical and chemical properties ... / >>

Colour	Not available
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	39 T ≤ 44 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not applicable
Upper inflammability limit	Not applicable
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 35,52 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F.Possibility of explosion.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

4-METHYLPENTAN-2-ONE

Reacts violently with: light metals.Attacks various types of plastic materials.

TOLUENE

Avoid exposure to: light.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid, iron, oxidising agents, sulphuric acid. Risk of explosion on contact with: phosphorus

SECTION 10. Stability and reactivity ... / >>

trichloride.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide,nitric acid,heat,mineral acids.May react violently with: oxidising agents.Forms explosive mixtures with: air.

4-METHYLPENTAN-2-ONE

May react violently with: oxidising agents.Forms peroxides with: air.Forms explosive mixtures with: hot air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid,nitric acid,silver perchlorate,nitrogen dioxide,non-metal halogenates,acetic acid,organic nitrocompounds.May form explosive mixtures with: air.May react dangerously with: strong oxidising agents,strong acids,sulphur.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat,naked flames.

BENZYL ALCOHOL

Avoid exposure to: air,sources of heat,naked flames.

CYCLOHEXANONE

Avoid exposure to: sources of heat,naked flames.

4-METHYLPENTAN-2-ONE

Avoid exposure to: sources of heat.

ETHYL ACETATE

Avoid exposure to: light,sources of heat,naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants.Incompatible materials: plastic materials.

BENZYL ALCOHOL

Incompatible with: sulphuric acid,oxidising substances,aluminium.

4-METHYLPENTAN-2-ONE

Incompatible with: oxidising substances,reducing substances.

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes,monocyclic terpenes,hydroterpenes,pyrones,cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

Eugenol

Informazioni riferite all'eugenolo:

LD50 orale ratto 2650 mg/Kg

LD50 dermale coniglio 5000 mg/Kg.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

SECTION 11. Toxicological information ... / >>

Information not available

Information on likely routes of exposure

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture: > 20 mg/l
 ATE (Oral) of the mixture: 892,34 mg/kg
 ATE (Dermal) of the mixture: >2000 mg/kg

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral) 3523 mg/kg Rat
 LD50 (Dermal) 4350 mg/kg Rabbit
 LC50 (Inhalation) 26 mg/l/4h Rat

TURPENTINE

LD50 (Oral) 5760 mg/kg Rat

TOLUENE

LD50 (Oral) 5580 mg/kg Rat
 LD50 (Dermal) 12124 mg/kg Rabbit
 LC50 (Inhalation) 28,1 mg/l/4h Rat

BENZYL ALCOHOL

LD50 (Oral) 1230 mg/kg Rat
 LD50 (Dermal) 2000 mg/kg Rabbit
 LC50 (Inhalation) > 4,1 mg/l/4h Rat

TETRAHYDROFURFURYL ALCOHOL

LD50 (Oral) 1600 mg/kg Rat

4-METHYLPENTAN-2-ONE

LD50 (Oral) 2080 mg/kg Rat
 LD50 (Dermal) > 16000 mg/kg Rabbit
 LC50 (Inhalation) > 8,2 mg/l/4h Rat

SKIN CORROSION / IRRITATION

SECTION 11. Toxicological information ... / >>

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.

Contains:

- (-)-Pin-2(10)-Ene
- SOLVENT RED 1
- DIPENTENE
- Alpha-Pinene
- Anethole
- (R)-P-MENTHA-1,8-DIENE
- Linalool
- Eucaliptol
- Eucaliptus globulus oil
- Eugenol

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).

The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).

The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

May damage the unborn child - Suspected of damaging fertility

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

SECTION 12. Ecological information ... / >>

DIPENTENE
 LC50 - for Fish 80 mg/l/96h Oncorhynchus mykiss
 EC50 - for Crustacea 17 mg/l/48h Daphnia magna

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water 100 - 1000 mg/l
 Degradability: information not available

TURPENTINE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ROSIN

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

(R)-P-MENTHA-1,8-DIENE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

TOLUENE

Solubility in water 100 - 1000 mg/l
 Rapidly degradable

DIPENTENE

NOT rapidly degradable

CYCLOHEXANOL

Solubility in water 36000 mg/l
 Rapidly degradable

BENZYL ALCOHOL

Rapidly degradable

TETRAHYDROFURFURYL ALCOHOL

Solubility in water > 10000 mg/l
 Rapidly degradable

4-METHYLPENTAN-2-ONE

Solubility in water > 10000 mg/l
 Rapidly degradable

CYCLOHEXANONE

Solubility in water 0,1 - 100 mg/l
 Rapidly degradable

ETHYL ACETATE

Solubility in water > 10000 mg/l
 Rapidly degradable

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)

Partition coefficient: n-octanol/water 3,12
 BCF 25,9

SECTION 12. Ecological information ... / >>

ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23
(R)-P-MENTHA-1,8-DIENE	
Partition coefficient: n-octanol/water	4,38
BCF	1022
TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
DIPENTENE	
Partition coefficient: n-octanol/water	4,5
CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
BENZYL ALCOHOL	
Partition coefficient: n-octanol/water	1,1
TETRAHYDROFURFURYL ALCOHOL	
Partition coefficient: n-octanol/water	-0,14
4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	1,9
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
ROSIN	
Partition coefficient: soil/water	3,7289
4-METHYLPENTAN-2-ONE	
Partition coefficient: soil/water	2,008
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18

12.5. Results of PBT and vPvB assessment

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

SECTION 13. Disposal considerations ... / >>

Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E2

SECTION 15. Regulatory information ... / >>

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>		
Point	3 - 40	
<u>Contained substance</u>		
Point	30	TETRAHYDROFURFURYL ALCOHOL
Point	48	TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Muta. 2	Germ cell mutagenicity, category 2
Repr. 1B	Reproductive toxicity, category 1B
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H341	Suspected of causing genetic defects.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361d	Suspected of damaging the unborn child.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.

SECTION 16. Other information ... / >>

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition

SECTION 16. Other information ... / >>

- IFA GESTIS website- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 07 / 08 / 09.

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **LJP--000008**
 Product name: **Lustro Giallo**
Prodotto metallo-organico per decorazione al terzo fuoco

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **third firing decoration in the glass/ceramics/porcelain sectors**

1.3. Details of the supplier of the safety data sheet

Name: **COLOROBRIA S.P.A.**
 Full address: **via Pietramarina 53**
 District and Country: **50053 Sovigliana - Vinci (FI) Italia**
 Tel. **+39 0571 7091**
 Fax **+39 0571 709.850**

e-mail address of the competent person responsible for the Safety Data Sheet: **ambientemsds@colorobbia.it**

1.4. Emergency telephone number

For urgent inquiries refer to:

- CAV - Ospedale Pediatrico Bambino Gesù - Roma - tel. +39 06 68593726**
- Az. Ospedaliera Università Foggia - Foggia - tel. 800183459**
- Az. Ospedaliera - A. Cardarelli- Napoli- tel. +39 081 7472870**
- CAV - Policlinico Umberto I- Roma - tel. +39 06 49978000**
- CAV - Policlinico A. Gemelli - Roma - tel. +39 06 3054343**
- Az. Ospedaliera Careggi - U.O. Tossicologia Medica - Firenze - tel. +39 055 7947819**
- CAV - Centro Nazionale di Informazione Tossicologica - Pavia - tel. +39 0382 24444**
- Ospedale Niguarda Ca' Granda - Milano - tel. +39 02 66101029**
- Az. ospedaliera Papa Giovanni XXIII - Bergamo - tel. 800883300**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Acute toxicity, category 4	H302	Harmful if swallowed.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very toxic to aquatic life with long lasting effects.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

- H226** Flammable liquid and vapour.
- H351** Suspected of causing cancer.
- H302** Harmful if swallowed.
- H304** May be fatal if swallowed and enters airways.
- H318** Causes serious eye damage.
- H315** Causes skin irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.
- EUH208** Contains: Malaleuca alternifolia extract
 terpinolen
 (-)-Pin-2(10)-Ene
 Alpha-Pinene
 Eucaliptol
 May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P331** Do NOT induce vomiting.
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P310** Immediately call a POISON CENTER / doctor / . . .
- P370+P378** In case of fire: use . . . to extinguish.

Contains: DIESEL OIL - not specified
 TURPENTINE
 Anethole
 Eucalyptus Oil
 ROSIN
 (R)-P-MENTHA-1,8-DIENE
 Eucalyptus globulus oil
 Linalool

2.3. Other hazards

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

SECTION 3. Composition/information on ingredients

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
TURPENTINE		
CAS	8006-64-2 10 ≤ x < 25	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	232-350-7	
INDEX	650-002-00-6	
Reg. no.	01-2119553060-53	
ROSIN		
CAS	8050-09-7 9 ≤ x < 25	Skin Sens. 1 H317
EC	232-475-7	
INDEX	650-015-00-7	
Reg. no.	01-2119480418-32-XXXX	
CYCLOHEXANOL		
CAS	108-93-0 5 ≤ x < 9	Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Irrit. 2 H315, STOT SE 3 H335
EC	203-630-6	
INDEX	603-009-00-3	
Reg. no.	01-2119447488-26-XXXX	
Eucalyptus Oil		
CAS	8000-48-4 5 ≤ x < 9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC		
INDEX		
BENZYL ALCOHOL		
CAS	100-51-6 1 ≤ x < 5	Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319
EC	202-859-9	
INDEX	603-057-00-5	
Reg. no.	01-2119492630-38-0000	
CHROME THREE (ETYL ESANOATE)		
CAS	3444-17-5 1 ≤ x < 5	Skin Irrit. 2 H315
EC	222-357-3	
INDEX		
Synthetic Camphor		
CAS	76-22-2 1 ≤ x < 5	Flam. Sol. 1 H228, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC	200-945-0	
INDEX		
Anethole		
CAS	104-46-1 1 ≤ x < 5	Skin Sens. 1 H317
EC	2032055	
INDEX		
Decahydronaphthalene		
CAS	91-17-8 1 ≤ x < 2,5	Flam. Liq. 3 H226, Acute Tox. 3 H331, Asp. Tox. 1 H304, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Chronic 1 H410 M=10
EC	202-046-9	
INDEX		
Reg. no.	01-2119565127-37-XXXX	
CYCLOHEXANONE		
CAS	108-94-1 1 ≤ x < 3	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC	203-631-1	
INDEX	606-010-00-7	
Reg. no.	01-2119453616-35	
DIESEL OIL - not specified		
CAS	68476-34-6 1 ≤ x < 5	Carc. 2 H351
EC	270-676-1	
INDEX	649-227-00-2	
Linalool		
CAS	78-70-6 1 ≤ x < 5	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1B H317
EC	201-134-4	
INDEX		
Reg. no.	01-2119474016-42-0000	

SECTION 3. Composition/information on ingredients ... / >>

(R)-P-MENTHA-1,8-DIENE

CAS 5989-27-5 $1 \leq x < 2,5$

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C

EC 227-813-5

INDEX 601-029-00-7

Reg. no. 01-2119529223-47-000

Eucalyptus globulus oil

CAS 84625-32-1 $1 \leq x < 2,5$

Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC 283-406-2

INDEX

Reg. no. 2119978250-37-0000

Eucaliptol

CAS 470-82-6 $0,5 \leq x < 1$

Flam. Liq. 3 H226, Skin Sens. 1 H317

EC 207-431-5

INDEX

Reg. no. 01-2119967772-24-0000

TOLUENE

CAS 108-88-3 $0,5 \leq x < 1$

Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336

EC 203-625-9

INDEX 601-021-00-3

Alpha-Pinene

CAS 80-56-8 $0,25 \leq x < 0,5$

Flam. Liq. 3 H226, Acute Tox. 4 H302, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 201-291-8

INDEX

Reg. no. 01-2119519223-49-0000

Camphene

CAS 79-92-5 $0,25 \leq x < 0,5$

Flam. Sol. 1 H228, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 201-234-8

INDEX

Reg. no. 01-2119446293-40-XXXX

(-)-Pin-2(10)-Ene

CAS 127-91-3 $0 \leq x < 0,5$

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317

EC 242-060-2

INDEX

terpinolen

CAS 586-62-9 $0 \leq x < 0,25$

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 209-578-0

INDEX

Reg. no. 01-2119982325-32-XXXX

Malaleuca alternifolia extract

CAS 85085-48-9 $0 \leq x < 0,25$

Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Sens. 1B H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC

INDEX

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 $0 \leq x < 0,5$

Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C

EC 215-535-7

INDEX 601-022-00-9

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

SECTION 4. First aid measures ... / >>**4.2. Most important symptoms and effects, both acute and delayed**

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

in the event of an accident or if you feel unwell, contact a beggar or a poison center

SECTION 5. Firefighting measures**5.1. Extinguishing media****SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture**HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters**GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage**7.1. Precautions for safe handling**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may

SECTION 7. Handling and storage ... / >>

accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici
SVN	Slovenija	Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
TUR	Türkiye	23.06.2017 tarihli, 30105 sayılı, KKDİK Ek II Yönetmelik hükümlerine uygun düzenlenmiştir
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

SECTION 8. Exposure controls/personal protection ... / >>

TURPENTINE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	300				
TLV	CZE	300		800		
VLA	ESP	113	20			
VLEP	FRA	560	100			
TLV	GRC	560	100	840	150	
TGG	NLD	560				
NDS/NDSch	POL	112		300		
TLV	ROU	400		500		SKIN
MV	SVN	560	100	560	100	SKIN
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,002	mg/l
Normal value in marine water	0,0002	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,001	mg/kg/d
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00031	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1,065 mg/kg bw/d				2,131 mg/kg bw/d

CYCLOHEXANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	200				
TLV	CZE	200	48	400	94	SKIN
VLA	ESP	208	50			SKIN
VLEP	FRA	200	50	300	75	
TLV	GRC	200	50			
TGG	NLD		1			
NDS/NDSch	POL	10				SKIN
TLV	ROU	100	25	200	50	SKIN
MV	SVN	210	50	840	200	SKIN
WEL	GBR	208	50			
TLV-ACGIH		205	50			SKIN

SECTION 8. Exposure controls/personal protection ... / >>

BENZYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	5				
TLV	CZE	40	8,88	80	17,76	
AGW	DEU	22	5	44	10	SKIN 11
NDS/NDSch	POL	240				
MV	SVN	22	5	44	10	SKIN

Synthetic Camphor

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		13	2	19	3	

Decahydronaphthalene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100				

CYCLOHEXANONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	40,8	10	81,6	20	SKIN
TLV	CZE	40	9,8	80	196	SKIN
AGW	DEU	80	20	80	20	SKIN
VLA	ESP	41	10	82	20	SKIN
VLEP	FRA	40,8	10	81,6	20	
TLV	GRC	200	50	400	100	
VLEP	ITA	40,8	10	81,6	20	SKIN
TGG	NLD			50		SKIN
VLE	PRT	40,8	10	81,6	20	SKIN
NDS/NDSch	POL	40		80		SKIN
TLV	ROU	40,8	10	81,6	20	SKIN
MV	SVN	40,8	10	81,6	20	SKIN
ESD	TUR	40,8	10	81,6	20	SKIN
WEL	GBR	41	10	82	20	SKIN
OEL	EU	40,8	10	81,6	20	SKIN
TLV-ACGIH		80	20	201	50	SKIN

(R)-P-MENTHA-1,8-DIENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	28	5	112	20	SKIN
MAK	DEU	28	5	112	20	SKIN
VLA	ESP	168	30			SKIN
MV	SVN	28	5	112	20	SKIN

SECTION 8. Exposure controls/personal protection ... / >>

TOLUENE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

SECTION 8. Exposure controls/personal protection ... / >>

RESPIRATORY PROTECTION If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	brown	
Odour	characteristic	
Odour threshold	Not available	
pH	Not applicable	
Melting point / freezing point	0 °C	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	25 T ≤ 30 °C	
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not applicable	
Upper inflammability limit	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	Not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	55 - 65 sec	
Explosive properties	Not available	
Oxidising properties	Not available	

9.2. Other information

VOC (Directive 2010/75/EC) : 36,68 %

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

TURPENTINE

Dissolves rubber.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F. Possibility of explosion.

CYCLOHEXANONE

Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

TOLUENE

Avoid exposure to: light.

SECTION 10. Stability and reactivity ... / >>

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

CYCLOHEXANOL

Risk of explosion on contact with: nitric acid, strong oxidising agents. May react dangerously with: alkaline metals, chromium trioxide. Forms explosive mixtures with: air.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid, iron, oxidising agents, sulphuric acid. Risk of explosion on contact with: phosphorus trichloride.

CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. May react violently with: oxidising agents. Forms explosive mixtures with: air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic acid, organic nitrocompounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

CYCLOHEXANOL

Avoid exposure to: sources of heat, naked flames.

BENZYL ALCOHOL

Avoid exposure to: air, sources of heat, naked flames.

CYCLOHEXANONE

Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

CYCLOHEXANOL

Incompatible with: strong oxidants. Incompatible materials: plastic materials.

BENZYL ALCOHOL

Incompatible with: sulphuric acid, oxidising substances, aluminium.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

SECTION 11. Toxicological information ... / >>

TOLUENE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	1135,52 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat

TURPENTINE

LD50 (Oral)	5760 mg/kg Rat
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TOLUENE

LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat

BENZYL ALCOHOL

LD50 (Oral)	1230 mg/kg Rat
LD50 (Dermal)	2000 mg/kg Rabbit
LC50 (Inhalation)	> 4,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
 May produce an allergic reaction.
 Contains:

SECTION 11. Toxicological information ... / >>

Malaleuca alternifolia extract
 terpinolen
 (-)-Pin-2(10)-Ene
 Alpha-Pinene
 Eucaliptol

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Suspected of causing cancer

TOLUENE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
 The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

(R)-P-MENTHA-1,8-DIENE

LC50 - for Fish	35 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	69,6 mg/l/48h Daphnia pulex

12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

XYLENE (MIXTURE OF ISOMERS)

Solubility in water	100 - 1000 mg/l
Degradability: information not available	

SECTION 12. Ecological information ... / >>

TURPENTINE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
ROSIN	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
(R)-P-MENTHA-1,8-DIENE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
TOLUENE	
Solubility in water	100 - 1000 mg/l
Rapidly degradable	
CYCLOHEXANOL	
Solubility in water	36000 mg/l
Rapidly degradable	
BENZYL ALCOHOL	
Rapidly degradable	
CYCLOHEXANONE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23
(R)-P-MENTHA-1,8-DIENE	
Partition coefficient: n-octanol/water	4,38
BCF	1022
TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
CYCLOHEXANOL	
Partition coefficient: n-octanol/water	1,25
BENZYL ALCOHOL	
Partition coefficient: n-octanol/water	1,1
CYCLOHEXANONE	
Partition coefficient: n-octanol/water	0,86

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
ROSIN	
Partition coefficient: soil/water	3,7289
CYCLOHEXANONE	
Partition coefficient: soil/water	1,18

12.5. Results of PBT and vPvB assessment

SECTION 12. Ecological information ... / >>

vPvB substances contained:
 Camphene

PBT substances contained:
 Camphene

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 Waste transportation may be subject to ADR restrictions.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
 IMDG: PAINT or PAINT RELATED MATERIAL (TURPENTINE)
 IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

SECTION 14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P5c-E1

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
Point	3 - 40
<u>Contained substance</u>	
Point	48 TOLUENE

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Carc. 2	Carcinogenicity, category 2
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B

SECTION 16. Other information ... / >>

Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament

SECTION 16. Other information ... / >>

11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 08 / 09.