Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Product name **CARMYFIX CM-233**

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

Intended use **Adhesive suitable for bonding leather, cloth, rubber, EVA, natural rubber, e.t.c on leather, or synthetic uppers in shoe industry.**
FOR PROFESSIONAL USE ONLY

1.3. Details of the supplier of the safety data sheet

Name **THRAKON S.A**
Full address **FACTORY : P.O. BOX. 57A**
District and Country **320-11 INOFYTA (VIOTIA)**
GREECE

Tel. 00302262032970

Fax 00302262056020

e-mail address of the competent person responsible for the Safety Data Sheet **a.antoniou@thrakon.gr**

1.4. Emergency telephone number

For urgent inquiries refer to **00302262032970**
Poison center line : 00302107793777

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 2020/878.
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	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

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.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:

P501	Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.
P102	Keep out of reach of children.
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.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P271	Use only outdoors or in a well-ventilated area.
P101	If medical advice is needed, have product container or label at hand.
P405	Store locked up.
P370+P378	In case of fire: Use dry powder or carbon dioxide fire extinguishers.

Contains: Toluene
Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich
Rosin
Acetone
Dodecane-1-thiol
2,3-epoxypropyl neodecanoate
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich CAS 64742-49-0 EC 925-292-5 INDEX 649-328-00-1 REACH Reg. 01-2119474209-33-XXXX	37,5 x < 40	Flam. Liq. 2 H225, Repr. 2 H361f, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411
Toluene CAS 108-88-3 EC 203-625-9 INDEX 601-021-00-3 REACH Reg. 01-2119471310-51-XXXX	27 x < 28,5	Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 3 H412
Acetone CAS 67-64-1 EC 200-662-2 INDEX 606-001-00-8 REACH Reg. 01-2119471330-49-XXXX	18 x < 19,5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
Resin acids and Rosin acids, sodium salts CAS 61790-51-0 EC 263-144-5 INDEX - REACH Reg. 01-2119486963-21	1 x < 1,5	Eye Irrit. 2 H319
Resin acids and Rosin acids, potassium salts CAS 61790-50-9 EC 263-142-4 INDEX - REACH Reg. 01-2119486885-17	1 x < 1,5	Eye Irrit. 2 H319
Rosin CAS 8050-09-7 EC 232-475-7 INDEX 650-015-00-7 REACH Reg. 01-2119480418-32	1 x < 1,5	Skin Sens. 1 H317
carbonic acid, zinc salt, basic CAS 51839-25-9 EC 257-467-0	0,3 x < 0,35	Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411

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REACH Reg. 01-2119474697-20

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

CAS 1675-54-3 | 0,25 x < 0,3 | Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC 216-823-5

INDEX 603-073-00-2

REACH Reg. 01-2119456619-26

2,3-epoxypropyl neodecanoate

CAS 26761-45-5 | 0,1 x < 0,15 | Muta. 2 H341, Skin Sens. 1 H317, Aquatic Chronic 2 H411

EC 247-979-2

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REACH Reg. 01-2119431597-33

Disulfiram

CAS 97-77-8 | 0 x < 0,025 | Acute Tox. 4 H302, STOT RE 2 H373, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=10

EC 202-607-8 | LD50 Oral: 500

INDEX 006-079-00-8

REACH Reg. 01-2119555278-30

dodecane-1-thiol

CAS 112-55-0 | 0 x < 0,05 | Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1

EC 203-984-1

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REACH Reg. 01-2119491318-31

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

Information not available

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:

GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ``σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία``»
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 2021

Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	180	50			
TLV-ACGIH		300	50			SKIN

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation							VND	3,25 mg/m3
Skin							VND	25,9 mg/kg/d

Toluene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	GRC	192	50	384	100	
OEL	EU	192	50	384	100	SKIN

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,68	mg/l
Normal value in marine water	0,68	mg/l

Normal value for fresh water sediment	16,39	mg/kg
Normal value for marine water sediment	16,39	mg/kg
Normal value of STP microorganisms	13,61	mg/l
Normal value for the terrestrial compartment	2,89	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				8,13 mg/kg bw/d				
Inhalation	226 mg/m3	226 mg/m3		56,5 mg/m3				
Skin				226 mg/m3				

Acetone

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	GRC	1780		3560		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10,6	mg/l
Normal value in marine water	1,06	mg/l
Normal value for fresh water sediment	30,4	mg/kg/d
Normal value for marine water sediment	3,04	mg/kg/d
Normal value for water, intermittent release	21	mg/l
Normal value of STP microorganisms	29,5	mg/l
Normal value for the terrestrial compartment	0,112	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				62 mg/kg bw/d				
Inhalation				200 mg/m3		2420 mg/m3		1210 mg/m3
Skin				62 mg/kg bw/d				186 mg/kg bw/d

Resin acids and Rosin acids, sodium salts

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0016	mg/l
Normal value in marine water	0,00016	mg/l
Normal value for fresh water sediment	0,007	mg/kg/d
Normal value for marine water sediment	0,0007	mg/kg/d
Normal value for water, intermittent release	0,016	mg/l
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0,00045	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic

Oral				10 mg/kg bw/d				
Inhalation				35 mg/m3				117 mg/m3
Skin				10 mg/kg bw/d				17 mg/kg bw/d

carbonic acid, zinc salt, basic

Predicted no-effect concentration - PNEC		
Normal value in fresh water	21	mg/l
Normal value in marine water	6	mg/l
Normal value for fresh water sediment	118	mg/Kg/ d
Normal value for marine water sediment	57	mg/Kg/ d
Normal value for the terrestrial compartment	35,6	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	0,83 mg/kg/d				0,83 mg/kg/d
Inhalation			VND	2,5 mg/m3			VND	5 mg/m3
Skin			VND	83 mg/kg/d			VND	83 mg/kg/d

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

Predicted no-effect concentration - PNEC		
Normal value in fresh water	6	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	0,996	mg/kg/d
Normal value for marine water sediment	0,1	mg/kg/d
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,196	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0,75 mg/kg bw/d		0,75 mg/kg bw/d				
Inhalation		0,75 mg/m3		0,75 mg/m3		12,3 mg/m3		12,3 mg/m3
Skin		3,6 mg/kg bw/d		3,6 mg/kg bw/d		8,3 mg/kg bw/d		8,3 mg/kg bw/d

2,3-epoxypropyl neodecanoate

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0035	mg/l
Normal value in marine water	0,35	mg/l
Normal value for water, intermittent release	0,035	mg/l
Normal value of STP microorganisms	50	mg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,1 mg/kg bw/d				

Inhalation	1 mg/m3	1,965 mg/m3
Skin	0,7 mg/kg bw/d	1,4 mg/kg bw/d

Disulfiram

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	GRC	2				

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).

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	viscous liquid	
Colour	Not available	
Odour	characteristic	
Melting point / freezing point	Not available	
Initial boiling point	> 35 °C	
Flammability	Not available	
Lower explosive limit	Not available	
Upper explosive limit	Not available	
Flash point	< 23 °C	
Auto-ignition temperature	Not available	
pH	Not available	
Kinematic viscosity	Not available	
Dynamic viscosity	1800-2200 cps (20°C)	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Vapour pressure	Not available	
Density and/or relative density	0,91 ± 0.03 (20°C)	
Relative vapour density	Not available	
Particle characteristics	Not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

Toluene

Avoid exposure to: light.

Acetone

Decomposes under the effect of heat.

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.

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.

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.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

Acetone

Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible 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.

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 hazard classes as defined in Regulation (EC) No 1272/2008

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

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

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich

LD50 (Dermal):	3350 mg/kg rabbit
LD50 (Oral):	16750 mg/kg rat
LC50 (Inhalation vapours):	259354 mg/l/4h rat

Toluene

LD50 (Oral):	636 mg/kg Rat
LC50 (Inhalation vapours):	49 g/m³/4h Rat

Acetone

LD50 (Dermal):	20000 mg/kg rabbit

LD50 (Oral):	5800 mg/kg rat
LC50 (Inhalation vapours):	76 mg/l/4h rat

Rosin

LD50 (Dermal):	> 2000 mg/kg rat
LD50 (Oral):	2800 mg/kg rat

Resin acids and Rosin acids, potassium salts

LD50 (Dermal):	> 2000 mg/kg rat
LD50 (Oral):	2130 mg/kg rat

Resin acids and Rosin acids, sodium salts

LD50 (Dermal):	> 2000 mg/kg rat
LD50 (Oral):	2130 mg/kg rat

carbonic acid, zinc salt, basic

LD50 (Dermal):	> 2000 mg/kg rat
LD50 (Oral):	> 5000 mg/kg rat
LC50 (Inhalation mists/powders):	> 5,7 mg/l rat

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

LD50 (Dermal):	2000 mg/kg rat
LD50 (Oral):	11400 mg/kg rat

2,3-epoxypropyl neodecanoate

LD50 (Dermal):	3800 mg/kg rat
LD50 (Oral):	> 9700 mg/kg rat

dodecane-1-thiol

LD50 (Dermal):	> 5000 mg/kg rat
LD50 (Oral):	> 5000 mg/kg rat male
LC50 (Inhalation vapours):	> 7,04 mg/l/4h rat

Disulfiram

LD50 (Dermal):	2050 mg/kg rabbit
LD50 (Oral):	500 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

Respiratory sensitization

Information not available

Skin sensitization

Information not available

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

Suspected of damaging fertility - Suspected of damaging the unborn child

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

Target organs

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

May cause damage to organs

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

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

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	
LC50 - for Fish	1,3 mg/l/96h
EC50 - for Crustacea	2,1 mg/l/48h Water flea
EC50 - for Algae / Aquatic Plants	> 11 mg/l/72h
Chronic NOEC for Crustacea	0,3 mg/l daphnia magna, 21 d
2,3-epoxypropyl neodecanoate	
LC50 - for Fish	9,6 mg/l/96h
EC50 - for Crustacea	4,8 mg/l/48h
EC50 - for Algae / Aquatic Plants	3,5 mg/l/72h 96 h
Acetone	
LC50 - for Fish	5540 mg/l/96h Oncorhynchous mykiss
EC50 - for Crustacea	8800 mg/l/48h daphnia magna
carbonic acid, zinc salt, basic	
EC50 - for Crustacea	0,41 mg/l/48h ceriodaphnia dubia
EC50 - for Algae / Aquatic Plants	136 mg/l/72h selenastrum capricornutum
Chronic NOEC for Fish	0,04 mg/l oncorhynchus mykiss, 30d
Chronic NOEC for Crustacea	0,07 mg/l daphnia magna, 21d
Disulfiram	
LC50 - for Fish	0,32 mg/l/96h
EC50 - for Crustacea	0,12 mg/l/48h daphnia magna
EC50 - for Algae / Aquatic Plants	1,8 mg/l/72h 96 h
Chronic NOEC for Fish	0,0032 mg/l danio rerio (10 days)
Chronic NOEC for Crustacea	0,04 mg/l daphnia magna, 21 d
dodecane-1-thiol	
LC50 - for Fish	> 100 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	> 1 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0,0145 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Algae / Aquatic Plants	0,0145 mg/l

Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich

LC50 - for Fish	13,37 mg/l/96h toxic
EC50 - for Crustacea	23,35 mg/l/48h crustaceans
Chronic NOEC for Fish	2,992 mg/l 28 d
Chronic NOEC for Crustacea	5,24 mg/l crustaceans, 21 d

Resin acids and Rosin acids, potassium salts

LC50 - for Fish	5,4 mg/l/96h Danio rerio
EC50 - for Crustacea	36 mg/l/48h Daphnia
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	2,5 mg/l Danio rerio
Chronic NOEC for Crustacea	10 mg/l Daphnia
Chronic NOEC for Algae / Aquatic Plants	1000 mg/l Pseudokirchneriella subcapitata

Resin acids and Rosin acids, sodium salts

LC50 - for Fish	5,4 mg/l/96h Danio rerio
EC50 - for Crustacea	36 mg/l/48h Daphnia
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	2,5 mg/l Danio rerio
Chronic NOEC for Crustacea	10 mg/l Daphnia
Chronic NOEC for Algae / Aquatic Plants	1000 mg/l Pseudokirchneriella subcapitata

Toluene

LC50 - for Fish	> 443 ppm/96h Skeletonema costatum
EC50 - for Crustacea	11600 mg/l/48h Crustaceans - Gammarus
EC50 - for Algae / Aquatic Plants	12500 mg/l/72h Pseudokirchn subcapitata
Chronic NOEC for Crustacea	1000 mg/l daphnia magna, 21 d

12.2. Persistence and degradability

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane
NOT rapidly degradable

2,3-epoxypropyl neodecanoate
NOT rapidly degradable

Acetone
Rapidly degradable

Disulfiram
NOT rapidly degradable

dodecane-1-thiol

NOT rapidly degradable

Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich

Solubility in water	0,06 g/l

Rapidly degradable

Resin acids and Rosin acids, potassium salts

Rapidly degradable

Resin acids and Rosin acids, sodium salts

Rapidly degradable

Toluene

Solubility in water	0,57 g/l

Rapidly degradable

12.3. Bioaccumulative potential

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

Partition coefficient: n-octanol/water	> 2,64
BCF	> 3

2,3-epoxypropyl neodecanoate

Partition coefficient: n-octanol/water	2,6

Acetone

BCF	3

carbonic acid, zinc salt, basic

Partition coefficient: n-octanol/water	< -4

Disulfiram

Partition coefficient: n-octanol/water	3,88

dodecane-1-thiol

Partition coefficient: n-octanol/water	> 6,5

Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich

Partition coefficient: n-octanol/water	> 2,2
BCF	501,187

Resin acids and Rosin acids, potassium salts

Partition coefficient: n-octanol/water	> 3

BCF	56,2
Resin acids and Rosin acids, sodium salts	
Partition coefficient: n-octanol/water	> 3,5
BCF	56,2
Toluene	
Partition coefficient: n-octanol/water	2,73
BCF	8,32

12.4. Mobility in soil

Disulfiram	
Partition coefficient: soil/water	> 3,9

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. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. 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 or ID number

ADR / RID, IMDG, IATA: 1133

14.2. UN proper shipping name

ADR / RID:	ADHESIVES
IMDG:	ADHESIVES (Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich)
IATA:	ADHESIVES

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	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: 640C		
IMDG:	EMS: F-E, S-D	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 353
	Special provision:	A3	

14.7. Maritime transport in bulk according to IMO instruments

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/EU: P5c-E2

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

Product

Point	3 - 40	

Contained substance

Point	75	
Point	48	Toluene REACH Reg.: 01-2119471310-51-XXXX

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Regulated explosives precursor
The acquisition, introduction, possession or use of that regulated explosives precursor by members of the general public is subject to reporting obligations as set out in Article 9.
All suspicious transactions and significant disappearances and thefts must be reported to the relevant national contact point.

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 Regulation (EU) 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
Muta. 2	Germ cell mutagenicity, category 2
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
Skin Corr. 1C	Skin corrosion, category 1C
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
STOT SE 3	Specific target organ toxicity - single exposure, category 3
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.
H341	Suspected of causing genetic defects.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H302	Harmful if swallowed.
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.
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
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: 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: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term 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) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) 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)
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14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII 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 / 02 / 03 / 09 / 11 / 12 / 15 / 16.