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: **411 00 14790-2770**

Product name **UNIVERSAL NEOPRENIC ADHESIVE**

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

Intended use **Solvent-based polychloroprene adhesive**

1.3. Details of the supplier of the safety data sheet

Name **Meccanocar Italia S.r.l.**

Full address **Via San Francesco, 22**

District and Country **56033 Capannoli (PI)**
Italy

Tel. +39 0587 609433

Fax +39 0587 607145

e-mail address of the competent person

responsible for the Safety Data Sheet **moreno.meini@meccanocar.it**

Product distribution by:

1.4. Emergency telephone number

For urgent inquiries refer to **National Poisons Information Service: +44 121 507 4123**

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.

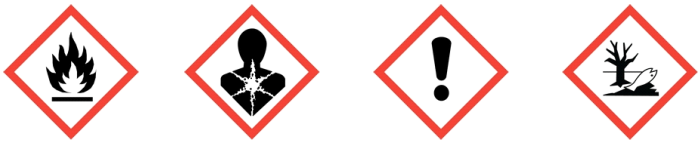
Hazard classification and indication:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Reproductive toxicity, category 2	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
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.
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.
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.
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: TOLUENE
N-HEXANE
NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED
ROSIN
ETHYL ACETATE

2.3. Other hazards

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

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED		
CAS 92045-53-9	30 ≤ x < 32,5	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 2 H411, Classification note according to Annex VI to the CLP Regulation: P
EC 295-434-2		
INDEX 649-383-00-1		
TOLUENE		
CAS 108-88-3	23,5 ≤ x < 25	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
EC 203-625-9		
INDEX 601-021-00-3		
Reg. no. 01-2119471310-51-XXXX		
ETHYL ACETATE		
CAS 141-78-6	20 ≤ x < 21,5	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-XXXX		
1,2-DICHLOROPROPANE		
CAS 78-87-5	5 ≤ x < 6	Flam. Liq. 2 H225, Carc. 1B H350, Acute Tox. 4 H302, Acute Tox. 4 H332
EC 201-152-2		
INDEX 602-020-00-0		
Reg. no. 01-2119557878-16-XXXX		
N-HEXANE		
CAS 110-54-3	3 ≤ x < 3,5	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
EC 203-777-6		
INDEX 601-037-00-0		
ROSIN		
CAS 8050-09-7	1 ≤ x < 1,5	Skin Sens. 1 H317
EC 232-475-7		
INDEX 650-015-00-7		
Reg. no. 01-2119480418-32-XXXX		
ZINC OXIDE		
CAS 1314-13-2	0,5 ≤ x < 0,6	Aquatic Chronic 1 H410 M=1
EC 215-222-5		
INDEX 030-013-00-7		
Reg. no. 01-2119463881-32-XXXX		

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. 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 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:

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
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
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
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

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN

VLEP	ITA	192	50			SKIN
TLV	NOR	94	25			SKIN
VLE	PRT	192	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

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	56,5 mg/m3	384 mg/m3	384 mg/m3	192 mg/m3	192 mg/m3
Skin				226 mg/kg bw/d				384 mg/kg bw/d

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	734	200	1468	400	
VLEP	FRA	1400	400			
WEL	GBR	734	200	1468	400	
VLEP	ITA	734	200	1468	400	
TLV	NOR	734	200			
VLE	PRT	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,24	mg/l
Normal value in marine water	0,024	mg/l
Normal value for fresh water sediment	1,15	mg/kg
Normal value for marine water sediment	0,115	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	mg/kg
Normal value for the terrestrial compartment	0,148	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				4,5 mg/kg bw/d				

Inhalation	734 mg/m3	734 mg/m3	367 mg/m3	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin				37 mg/kg bw/d				63 mg/kg bw/d

1,2-DICHLOROPROPANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	47	10			
VLEP	FRA	350	75			
TLV	NOR	185	40			
TLV-ACGIH		46	10			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,082	mg/l
Normal value in marine water	0,008	mg/l
Normal value for fresh water sediment	0,676	mg/kg
Normal value for marine water sediment	0,068	mg/kg
Normal value of STP microorganisms	0,59	mg/l
Normal value for the terrestrial compartment	0,088	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		2,29 mg/kg bw/d		0,52 mg/kg bw/d				
Inhalation	28,88 mg/m3	28,88 mg/m3		14,44 mg/m3	57,75 mg/m3	57,75 mg/m3		2,88 mg/m3
Skin	0,69 mg/kg bw/d	1,03 mg/kg bw/d	0,67 mg/kg bw/d	0,52 mg/kg bw/d	1,39 mg/kg bw/d	2,07 mg/kg bw/d	1,39 mg/kg bw/d	1,03 mg/kg bw/d

N-HEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	72	20			Como n-esano
VLEP	FRA	72	20			
WEL	GBR	72	20			
VLEP	ITA	72	20			
TLV	NOR	72	20			
VLE	PRT	72	20			
OEL	EU	72	20			
TLV-ACGIH		176	50			SKIN

ROSIN

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
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	mg/l
Normal value for fresh water sediment	0,007	mg/kg
Normal value for marine water sediment	0,001	mg/kg
Normal value of STP microorganisms	1000	mg/l
Normal value for the terrestrial compartment	0	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				1065 mg/kg bw/d				
Inhalation							10 mg/m3	
Skin				1065 mg/kg bw/d				2131 mg/kg bw/d

ZINC OXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	2		10		
VLEP	FRA	5				
TLV	NOR	5				
TLV-ACGIH		2		10		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2,6	mg/l
Normal value in marine water	0,61	mg/l
Normal value for fresh water sediment	117,8	mg/kg
Normal value for marine water sediment	56,5	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	35,6	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				0,83 mg/kg bw/d				
Inhalation				2,5 mg/m3			0,5 mg/m3	5 mg/m3
Skin				83 mg/kg bw/d				83 mg/kg bw/d

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.

The product must be used inside a closed circuit, in a well-ventilated environment and with strong localised aspiration systems in place.

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, 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.

ETHYL ACETATE

Butyl rubber gloves (opening times> 480 minutes), Neoprene ™ rubber, nitrile rubber (opening times up to 480 minutes).

1,2-DICHLOROPROPANE

Protective gloves, protective clothing, goggles, mask with approved filter.
Gloves materials and specifications:
- Viton gloves (thickness: 0.3-0.71 mm; typical breakthrough time: 480 min) or other fluoroelastomer gloves (thickness: 0.5-1.5 mm; typical breakthrough time:> 240 min);
- PVA gloves (thickness: 0.3 mm; typical breakthrough time: 360 min);
- neoprene gloves (thickness: 0.75 mm; typical breakthrough time: 60-120 min);
- nitrile gloves (thickness: 0.2-0.38 mm; typical breakthrough time: 10-30 min).

ZINC OXIDE

Protective gloves (EN 374)

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	viscous liquid
Colour	straw yellow
Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	65 °C
Boiling range	Not available
Flash point	< 21 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	>1
Relative density	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

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.

ETHYL ACETATE

It slowly decomposes to acetic acid and ethanol due to the action of light, air and water. Stable under normal conditions. Upon storage, it is slowly decomposed by water.

1,2-DICHLOROPROPANE

Decomposes on contact with: naked flames,overheated surfaces.

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.

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.

1,2-DICHLOROPROPANE

Risk of explosion on contact with: aluminium,metal powders.May react dangerously with: alkaline metals,alkaline earth metals,sodium amides.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.

Ignition sources.

10.5. Incompatible materials

ETHYL ACETATE

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

Oxidizing agents, acids, alkalis.

ZINC OXIDE

Acids and basics.

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.

ETHYL ACETATE

Carbon oxides on combustion.

1,2-DICHLOROPROPANE

May develop: hydrochloric acid.

ZINC OXIDE

ZnO fumes can be generated during heat treatment.

SECTION 11. Toxicological information

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.

N-HEXANE

WORKERS: inhalation; contact with the skin.
POPULATION: 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.

N-HEXANE

The chronic toxic effect concerns the central and peripheral nervous system; this is also affected by an acute effect. The irritating action affects the respiratory tract, conjunctiva and skin.

Interactive effects

TOLUENE

Certain drugs and other industrial products can interfere with the metabolism of the toluene.

N-HEXANE

Simultaneous exposure to toluene or methyl ethyl ketone inhibits the metabolism of the substance and the formation of 2,5-hexanedione (INRS, 2008).

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
> 20 mg/l
LD50 (Oral) of the mixture:
>2000 mg/kg
LD50 (Dermal) of the mixture:
Not classified (no significant component)

TOLUENE

LD50 (Oral) 5580 mg/kg Rat

LD50 (Dermal) 12124 mg/kg Rabbit

LC50 (Inhalation) 28,1 mg/l/4h Rat

NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED

LD50 (Oral) > 5000 mg/kg Rat

LD50 (Dermal) > 2000 mg/kg Rabbit

N-HEXANE

LD50 (Oral) 5000 mg/kg Rat

LD50 (Dermal) 3000 mg/kg Rabbit

1,2-DICHLOROPROPANE

LD50 (Oral) > 2200 mg/kg Rat

LD50 (Dermal) 10100 mg/kg Rabbit

LC50 (Inhalation) 9,4 mg/l/4h

TOLUENE

Method: Equivalent or similar to EU Method B.1
Reliability: 2
Species: Rat (Sprague-Dawley Cobb; male)
Route of exposure: Oral
Results: LD50 = 5580 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: LC50 = 25.7 mg / L air
Method: Not indicated
Reliability: 2
Species: Rabbit
Route of exposure: Dermal
Results: LD50> 5000 mg / kg bw
Bibliographic reference: Range-finding toxicity data: List VII, Smyth HF, Carpenter CP, Weil CS, Pozzani UC, Streigel JA and Nycum JS (1969

ETHYL ACETATE

Method: Multi-Substance Rule for the Testing of Neurotoxicity 40 CFR Part 799 (58 FR 40262)
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative
Method: Not indicated
Reliability: 2
Species: Rabbit (New Zealand White; male)
Route of exposure: Dermal
Results: LD50> 20 000 mg / kg bw

ROSIN

Method: OECD 423
Reliability: 1
Species: Rat (Sprague-Dawley; female)
Route of exposure: Oral
Results: LD50> 2000 mg / kg bw
Method: OECD 402
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Dermal
Results: LD50> 2000 mg / kg bw

ZINC OXIDE

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: LD50> 5 000 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 2
Species: Rat (male / female)
Route of exposure: Inhalation
Results: LC50> 5 700 mg / m^3 air
Method: OECD 402
Reliability: 1
Species: Rat (Wistar; male / female)

Route of exposure: Dermal
Results: LD50> 2 000 mg / kg bw

SKIN CORROSION / IRRITATION

Causes skin irritation

TOLUENE

Method: EU Method B.4
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Irritating

1,2-DICHLOROPROPANE

Method: OECD 404
Reliability: 1
Species: Rabbit
Route of exposure: Dermal
Results: Slightly irritating

ROSIN

Method: OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

ZINC OXIDE

Method: Not indicated
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

TOLUENE

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Slightly irritating

ETHYL ACETATE

Method: OECD 405
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

1,2-DICHLOROPROPANE

Method: OECD GUIDELINES FOR TESTING OF CHEMICALS 438
Reliability: 1
Species: Chicken
Route of exposure: Ocular
Results: Slightly irritating

ROSIN

Method: OECD 492
Reliability: 1
Human species
Route of exposure: Ocular
Results: Not classified

ZINC OXIDE

Method: EU Method B.5
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

TOLUENE

Method: EU Method B.6
Reliability: 1
Species: guinea pig (Himalayan Albino; female)
Route of exposure: Dermal
Results: Not sensitizing

ROSIN

Method: OECD 429
Reliability: 1
Species: Mouse (CBA; female)
Route of exposure: Dermal
Results: Not sensitizing

Skin sensitization
ETHYL ACETATE

Method: OECD 406
Reliability: 1
Species: guinea pig (Dunkin-Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

1,2-DICHLOROPROPANE

Method: OECD 429
Reliability: 1
Species: Mouse (female)
Route of exposure: Dermal
Results: Not sensitizing

ZINC OXIDE

Method: OECD 406
Reliability: 1
Species: guinea pig (Dunkin-Hartley; females)
Route of exposure: Dermal
Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE

Method: Equivalent or similar to EU Method B.13 / 14-in vitro test
Reliability: 2
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Not indicated - in vivo test
Reliability: 2
Species: Rat
Route of exposure: Intraperitoneal
Results: Negative

ETHYL ACETATE

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 2
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 2
Species: Chinese hamster (male / female)
Route of exposure: Oral
Results: Negative

1,2-DICHLOROPROPANE

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with or without metabolic activation
Method: EPA OPPTS 870.5395-in vivo test
Reliability: 1
Species: Mouse (CD-1; male)
Route of exposure: Oral
Results: Negative

ROSIN

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation

ZINC OXIDE

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 2

Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: OECD 474-test in vivo
Reliability: 1
Species: Mouse (NMRI; male)
Route of exposure: intraperitoneal
Results: Negative

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".

1,2-DICHLOROPROPANE

Method: Not indicated
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative
Bibliographic reference: OECD SIDS 1,2-DICHLOROPROPANE (2003)

N-HEXANE

The US Environmental Protection Agency (EPA) affirms that "the data was inadequate for an assessment of the carcinogenic potential"- (US EPA file on-line 2015).

ZINC OXIDE

Method: Not indicated
Reliability: 2
Species: Mouse (Chester Beatty stock; male / female)
Route of exposure: Oral
Results: NOAEL> 22 000 mg / L
Bibliographic reference: Walters M & Roe FJC, A Study of the Effects of Zinc and Tin Administered Orally to Mice Over a Prolonged Period (1965)

REPRODUCTIVE TOXICITY

Suspected of damaging fertility - Suspected of damaging the unborn child

ETHYL ACETATE

Method: Equivalent or similar to OECD 416
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: Negative
Method: Equivalent or similar to OECD 414
Reliability: 2
Species: Rat (Sprague-Dawley)
Route of exposure: Inhalation
Results: Negative

Adverse effects on sexual function and fertility
TOLUENE

Method: Not indicated
Reliability: 2
Species: Rat (Sprague_Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC (fertility) = 600 ppm
Bibliographic reference: Reproductive and developmental toxicity studies of toluene II. Effects of inhalation exposure on fertility in rats, Ono A, Sekita K, Ogawa Y, Hirose A, Suzuki S, Saito M, Naito K, Kaneko T, Furuya T, Kawashima K, Yasuhara K, Matsumoto K, Tanaka S, Inoue T and Kurokawa Y (1996)

1,2-DICHLOROPROPANE

Method: EPA OTS 798.4700
Reliability: 1
Species: Rat (Sprague Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 0.024 other:%

ROSIN

Method: OECD 422
Reliability: 1
Species: Rat (RccHan TM: WIST (SPF); male / female)
Route of exposure: Oral
Results: Negative, NOEL (fertility) = 2500 ppm

ZINC OXIDE

Method: Equivalent or similar to OECD 416
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LOAEL (fertility) 7.5 mg / kg bw / day

Adverse effects on development of the offspring
TOLUENE

Method: Not indicated
Reliability: 2
Species: Rat (Wistar)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC (development) = 600 ppm
Bibliographic reference: Postnatal development and behavior of Wistar rats after prenatal toluene exposure, Thiel R and Chahoud I (1997)

1,2-DICHLOROPROPANE

Method: EPA OTS 798.4900
Reliability: 1
Species: Rat (Sprague Dawley)
Route of exposure: Oral
Results: NOAEL 30 mg / kg bw

ROSIN

Method: OECD 414
Reliability: 1
Species: Rat (Sprague-Dawley)
Route of exposure: Oral
Results: Negative, NOAEL = (development) = 2500 ppm

ZINC OXIDE

Method: OECD 414
Reliability: 1
Species: Rat (Wistar)
Route of exposure: Inhalation (aerosol)
Results: NOAEC (development) 7.5 mg / m³ air

STOT - SINGLE EXPOSURE

May cause respiratory irritation
May cause drowsiness or dizziness

TOLUENE

Based on available data and through expert judgment, the substance is classified in the target prgani toxicity class for single exposure.

ETHYL ACETATE

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

1,2-DICHLOROPROPANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ROSIN

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ZINC OXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Target organ
TOLUENE

Central nervous system

ETHYL ACETATE

Central nervous system

Route of exposure
TOLUENE

Inhalation

ETHYL ACETATE

Inhalation

STOT - REPEATED EXPOSURE

May cause damage to organs

TOLUENE

Method: Equivalent or similar to EU Method B.26
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: NOAEL = 625 mg / kg bw / day
Method: EU Method B.29
Reliability: 1
Species: Rat (F344 / N; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC = 625 ppm

ETHYL ACETATE

Method: Equivalent or similar to EPA OTS 795.2600
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 900 mg / kg bw / day
Method: EPA OTS 798.2450
Reliability: 1
Species: Rat (Crl: CD®BR; male / female)
Route of exposure: Inhalation
Results: LOEC 350 ppm

1,2-DICHLOROPROPANE

Method: standard NTP methodology
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: NOAEL 500 mg / kg bw / d.
Bibliographic reference:
Method: Not indicated
Reliability: 1
Species: Mouse (B6C3F1)
Route of exposure: Inhalation (vapors)
Results: NOAEL 15 ppm

ROSIN

Method: OECD 408
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: Negative, NOAEL = 5000 ppm

ZINC OXIDE

Method: OECD 408
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 31.52 mg / kg bw
Method: OECD 413
Reliability: 1
Species: Rat (Wistar; male)
Route of exposure: Inhalation (aerosol)
Results: NOAEL 1.5 mg / m^3 air
Method: OECD 410
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Dermal
Results: LOAEL 75 mg / kg bw / day

Target organ
TOLUENE

Neurological

Route of exposure
TOLUENE

Inhalation

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

ZINC OXIDE	
LC50 - for Fish	1,1 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	1,7 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0,14 mg/l/72h Pseudokirchnerella subcapitata
Chronic NOEC for Fish	0,53 mg/l
Chronic NOEC for Algae / Aquatic Plants	0,024 mg/l

TOLUENE	
LC50 - for Fish	5,5 mg/l/96h
EC50 - for Crustacea	3,78 mg/l/48h
EC50 - for Algae / Aquatic Plants	134 mg/l/72h
EC10 for Algae / Aquatic Plants	10 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	10 mg/l

NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED	
LC50 - for Fish	8,2 mg/l/96h Pimephales promelas
EC50 - for Crustacea	4,5 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	3,1 mg/l/72h Pseudokirchnerella subcapitata

12.2. Persistence and degradability

TOLUENE
Easily degradable in water.
ETHYL ACETATE
Rapidly degradable, 60% in 10 days.
ROSIN

Easily degradable in water, 80% in 28 days.

ZINC OXIDE	
Solubility in water	2,9 mg/l
NOT rapidly degradable	
ETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	
TOLUENE	
Solubility in water	100 - 1000 mg/l
Rapidly degradable	
ROSIN	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED	
Rapidly degradable	
N-HEXANE	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
1,2-DICHLOROPROPANE	
Solubility in water	1000 - 10000 mg/l
NOT rapidly degradable	

12.3. Bioaccumulative potential

ZINC OXIDE	
BCF	> 175
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30
TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23

N-HEXANE

Partition coefficient: n-octanol/water	4
BCF	501,187

1,2-DICHLOROPROPANE

Partition coefficient: n-octanol/water	1,99

12.4. Mobility in soil

ROSIN

Partition coefficient: soil/water	3,7289

NAPHTHA (PETROLEUM), HYDRODESULFURIZED LIGHT, DEAROMATIZED

Partition coefficient: soil/water	2

N-HEXANE

Partition coefficient: soil/water	3,34

1,2-DICHLOROPROPANE

Partition coefficient: soil/water	1,72

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 greater 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.

ETHYL ACETATE
Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration. Dispose according to local regulations.
Disposal of the container: empty the container completely. Empty containers may contain highly flammable residues. Do not cut, grind, puncture, weld or dispose of containers unless adequate precautions have been taken against this hazard. Do not remove the container labels until they are cleaned. Send to drum recovery or metal recovery.

ZINC OXIDE
The assignment of a waste code number, according to the European Waste Catalog, should be done

in agreement with the regional waste disposal company.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	1133

14.2. UN proper shipping name

ADR / RID:	ADHESIVES
IMDG:	ADHESIVES
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:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: 640D		
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 Instructions:	A3	

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	

Contained substance

Point	48	TOLUENE Reg. no.: 01-2119471310-51-XXXX
Point	28	1,2-DICHLOROPROPANE Reg. no.: 01-2119557878-16-XXXX

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 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
Carc. 1B	Carcinogenicity, category 1B
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 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 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.
H350	May cause cancer.
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.
H332	Harmful if inhaled.
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.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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
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14. Regulation (EU) 2018/669 (XI Atp. CLP)
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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.

Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.