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 16620-4125-Fluid resin**
411 00 16630-4130-Filler resin

Product name **RESINS FOR CRYSTAL REPAIRS**

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

Intended use **Fluid resin for crystal repair and filling resin for crystal repair**

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**

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.

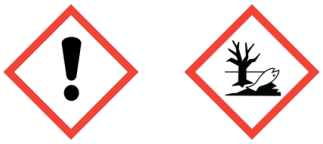
Hazard classification and indication:

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, 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.

2.2. Label elements

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

Hazard pictograms:



Signal words: Warning

Hazard statements:

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.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

Precautionary statements:

P280	Wear protective gloves / eye protection / face protection.
P312	Call a POISON CENTRE / doctor if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P337+P313	If eye irritation persists: Get medical advice / attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents / container in accordance with local regulations.

Contains: [3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE
EXO-1,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE
2-HYDROXYETHYL METHACRYLATE

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)**
2-HYDROXYETHYL METHACRYLATE CAS 868-77-9 EC 212-782-2 INDEX - Reg. no. 01-2119490169-29-XXXX	47,5 ≤ x < 50	Eye Irrit. 2 H319, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: D
EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE		

CAS 5888-33-5 EC 227-561-6 INDEX - Reg. no. 01-2119957862-25-XXXX	47,5 ≤ x < 50	Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE CAS 2530-83-8 EC 219-784-2 INDEX - Reg. no. 01-2119513212-58-XXXX	4 ≤ x < 4,5	Eye Dam. 1 H318

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. 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
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.

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.

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

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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. 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

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,001	mg/l
Normal value in marine water	0	mg/l
Normal value for fresh water sediment	0,145	mg/kg
Normal value for marine water sediment	0,015	mg/kg

Normal value of STP microorganisms	2	mg/l
Normal value for the terrestrial compartment	0,029	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				1,45 mg/m3				4,9 mg/m3
Skin				0,83 mg/kg bw/d				1,39 mg/kg bw/d

2-HYDROXYETHYL METHACRYLATE

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,482	mg/l
Normal value in marine water	0,482	mg/l
Normal value for fresh water sediment	3,79	mg/kg
Normal value for marine water sediment	3,79	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,476	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				2,9 mg/m3				4,9 mg/m3
Skin				0,83 mg/kg bw/d				1,3 mg/kg bw/d

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,45	mg/l
Normal value in marine water	0,045	mg/l
Normal value for fresh water sediment	1,6	mg/kg
Normal value for marine water sediment	0,16	mg/kg
Normal value of STP microorganisms	8,2	mg/l
Normal value for the terrestrial compartment	0,063	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				5 mg/kg bw/d				
Inhalation				17 mg/m3				70,5 mg/m3
Skin				5 mg/kg bw/d				10 mg/kg bw/d

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.

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.

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Glove material: butyl rubber
Breakthrough time: 480 min
Glove thickness: 0.7 mm
EN 374
The hand protection mentioned above is based on specific knowledge of the chemical and the intended handling of this product, however, it may not be suitable for all workplaces. A qualified hazard assessment must be carried out before starting work in order to determine the suitability of gloves for specific work environments and processes.
Please observe the permeability and breakthrough time instructions provided by the glove supplier. Also take into consideration the specific local conditions in which the product is used, such as the danger of cuts, abrasions and contact times.
Gloves must be discarded and replaced if there are indications of degradation or chemical innovation.

2-HYDROXYETHYL METHACRYLATE

Butyl rubber.
Breakthrough time: 480 min
Glove thickness: 0.3 mm
Guideline: EN 374
Additional Information: Observe the permeability and breakthrough time instructions provided by the glove supplier. Also take into consideration the specific local conditions in which the product is used, such as the danger of cuts, abrasions and contact times., The above mentioned hand protection is based on a specific knowledge of the chemical and of the expected handling of this product however, it may not be suitable for all workplaces. A qualified

hazard assessment must be carried out before starting work in order to determine the suitability of the gloves for specific work environments and processes., The gloves must be discarded and replaced if there are indications of degradation or chemical innovation.

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

If this product will be mixed with other substances, it is necessary to contact a supplier of CE approved protective gloves.
Material: 898 Butoject, minimum breakthrough time: 480 min, glove thickness: 0.7 mm, guideline: EN 374

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	colourless
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	> 100 °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	Not available
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.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Heat-evolving polymerization can occur in the presence of radical-forming substances (eg peroxides), reducing substances and / or heavy metal ions.

2-HYDROXYETHYL METHACRYLATE

Heat-evolving polymerization can occur in the presence of radical-forming substances (eg peroxides), reducing substances and / or heavy metal ions.

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

POLYMERIZATION - HYDROLYSIS Epoxy-silane esters are not monomers in the common sense, but polymeric materials can be produced under certain conditions of catalyzed partial hydrolysis. Polysiloxanes are produced by polymerization of the silyl ester group in the presence of controlled quantities of water and alkaline or acid catalyst at room temperature. At slightly higher temperatures (about 50 ° C), polyglycols or polyglycolic ethers are produced through the epoxy functional group under the same conditions of concentration of water and alkaline or acid catalyst. To the extent that both of these reactions are exothermic and can occur simultaneously, the evolved heat can be cumulative and greatly accelerate the speed of reactions. It is therefore essential to avoid involuntary contamination of epoxy esters with water and that intentional hydrolysis is adequately controlled to avoid dangerous consequences.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Ultraviolet light Avoid high temperatures and sources of ignition The product is normally supplied in a stabilized form. If the permitted storage period and / or storage temperature are exceeded, the product may polymerize with the evolution of heat.

2-HYDROXYETHYL METHACRYLATE

Ultraviolet light. High temperature The product is normally supplied in a stabilized form. If the permitted storage period and / or storage temperature are exceeded, the product may polymerize with the evolution of heat.

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Avoid contact with sources of ignition.

10.5. Incompatible materials

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.

2-HYDROXYETHYL METHACRYLATE

Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Reacts with water or moisture to form methanol

10.6. Hazardous decomposition products

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Hazardous decomposition products Carbon oxides Silicon oxides.

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

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

LC50 (Inhalation) of the mixture:
Not classified (no significant component)
LD50 (Oral) of the mixture:
Not classified (no significant component)
LD50 (Dermal) of the mixture:
Not classified (no significant component)

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

LD50 (Oral) 8025 mg/kg Rat - Wistar

LD50 (Dermal) 4250 mg/kg Rabbit - New Zeland white

LC50 (Inhalation) 5,3 mg/l Rat - Fischer 344

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: Not indicated
Reliability: 2
Species: Rat (Wistar; male)
Route of exposure: Oral
Results: Not classified
Method: Not indicated
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: LD50> 3000 mg / kg bw

2-HYDROXYETHYL METHACRYLATE

Method: Chemical Safety Assessment by the Pharmacology Division Staff, FDA, 1959 in Food, Drugs and Cosmetics
Reliability: 2
Species: Rat (Wistar)
Route of exposure: Oral
Results: LD50 = 5564 mg / kg bw
Method: Not indicated
Reliability: 2
Species: Rabbit (male)
Route of exposure: Dermal
Results: LD50> 5000 mg / kg bw

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: LD50 7.5 mL / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (aerosol)
Results: LC50> 5.3 mg / L air
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; male)
Route of exposure: Dermal
Results: LD50 3.97 mL / kg bw

SKIN CORROSION / IRRITATION

Causes skin irritation

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: Federal Regulations Code, section 1500.41
Reliability: 2

Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not classified

2-HYDROXYETHYL METHACRYLATE

Method: Assessment of the safety of chemicals in food, drugs and cosmetics (1959)
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not classified

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

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

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: Federal Regulations Code, section 1500.42
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not indicated

2-HYDROXYETHYL METHACRYLATE

Method: Evaluation of the safety of chemicals in food, drugs and cosmetics by the staff of the pharmacology division, FDA acc. to empty
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Category 2B (slightly irritating to eyes)

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

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

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

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

Skin sensitization
EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: OECD 429
Reliability: 1
Species: Mouse (CBA / CaOlaHsd; female)
Route of exposure: Dermal
Results: Category 1 (Skin sensitizer)

2-HYDROXYETHYL METHACRYLATE

Method: Not indicated
Reliability: 2
Species: guinea pig (Pirbright: male)
Route of exposure: Dermal
Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

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

2-HYDROXYETHYL METHACRYLATE

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium, E. Coli
Results: Negative with and without metabolic activation
Method: OECD 474-test in vivo
Reliability: 1
Species: Rat (Sprague-Dawley; male)
Route of exposure: Oral
Results: Negative

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 2
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: OECD 489-test in vivo
Reliability: 1
Species: Rat (Wistar; male)
Route of exposure: Oral
Results: Positive

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

2-HYDROXYETHYL METHACRYLATE

Method: Equivalent or similar to OECD 451
Reliability: 1
Species: Mouse (B6C3F1; male / female)
Route of exposure: Inhalation
Results: Negative

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Method: Not indicated
Reliability: 2
Species: Mouse (C3H; male)
Route of exposure: Dermal
Results: NOAEL> = 5 other: mg / kg bw / day

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility
EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: OECD 422
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL (fertility) = 100 mg / kg bw / day

2-HYDROXYETHYL METHACRYLATE

Method: OECD combined repeat reproduction toxicity and reproductive / developmental toxicity screening test (GL 422 precursor protocol)
Reliability: 1
Species: Rat (Crj: CD (SD); male / female)
Route of exposure: Oral
Results: NOAEL (fertility)> = 1000 mg / kg bw / day

Adverse effects on development of the offspring
EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: OECD 414
Reliability: 1
Species: Rat (Sprague-Dawley)
Route of exposure: Inhalation (vapors)
Results: NOAEC (development) = 40 ppm

2-HYDROXYETHYL METHACRYLATE

Method: OECD 422
Reliability: 1
Species: Rat (Crj: CD (SD))
Route of exposure: Oral
Results: NOAEL (development)> = 1000 mg / kg bw / day

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Method: Equivalent or similar to OECD 414
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Oral
Results: NOAEL (development) 200 and = 400 mg / kg bw / day

STOT - SINGLE EXPOSURE

May cause respiratory irritation

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

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

2-HYDROXYETHYL METHACRYLATE

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

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

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

Target organ
EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Respiratory tract

Route of exposure
EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Inhalation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

Method: OECD 422
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL = 100 mg / kg bw / day

2-HYDROXYETHYL METHACRYLATE

Method: OECD 422
Reliability: 1
Species: Rat (Crj: CD (SD); male / female)
Route of exposure: Oral
Results: NOAEL = 100 mg / kg bw / day
Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation
Results: NOAEC = 100 ppm

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Method: OECD 408
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: NOAEL> = 1 000 mg / kg bw / day

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

LC50 - for Fish	55 mg/l/96h Cyprinus carpio
EC50 - for Crustacea	324 mg/l/48h Simocephalus vetulus

2-HYDROXYETHYL METHACRYLATE

LC50 - for Fish	100 mg/l/96h
EC50 - for Crustacea	380 mg/l/48h
EC50 - for Algae / Aquatic Plants	836 mg/l/72h
EC10 for Crustacea	24,1 mg/l/28d
Chronic NOEC for Crustacea	24,1 mg/l
Chronic NOEC for Algae / Aquatic Plants	400 mg/l

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE

LC50 - for Fish	0,704 mg/l/96h
EC50 - for Algae / Aquatic Plants	1,98 mg/l/72h
EC10 for Algae / Aquatic Plants	0,405 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	0,405 mg/l

12.2. Persistence and degradability

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE
Easily degradable in water, 60% in 28 days.
2-HYDROXYETHYL METHACRYLATE
Easily degradable in water, 84% in 28 days.
[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE
Quickly degradable in water.

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE
NOT rapidly degradable

12.3. Bioaccumulative potential

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE

Partition coefficient: n-octanol/water	-2,6

12.4. Mobility in soil

Information not available

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.

EXO-1,7,7-TRIMETYLBICYCLE ACRYLATE [2.2.1] EPT-2-ILE
Waste is dangerous. It must be disposed of in accordance with the regulations after consulting the competent local authorities and the disposal company in a suitable and authorized facility.

2-HYDROXYETHYL METHACRYLATE
Dispose of waste and residues in accordance with the requirements of local authorities.
Disposal methods:
Waste is dangerous. It must be disposed of in accordance with the regulations after consulting the competent local authorities and the disposal company in a suitable and authorized facility. Strictly controlled conditions during the disposal or treatment of air, waste water and waste. Do not add waste water to a biological waste water treatment plant. Bring waste water containing AOX for professional disposal. The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE
-General information: see section Exposure controls / personal protection for information on suitable personal protective equipment. The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground.
-Disposal methods: can be incinerated in accordance with local regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	3082
ADR / RID:	In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to ADR

provisions.

IMDG: In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IMDG Code provisions.

IATA: In accordance with SP A197, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

14.2. UN proper shipping name

ADR / RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR / RID: Class: 9 Label: 9

IMDG: Class: 9 Label: 9

IATA: Class: 9 Label: 9

14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous

IMDG: Marine Pollutant

IATA: Environmentally Hazardous

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90 Special Provision: -	Limited Quantities: 5 L	Tunnel restriction code: (-)
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Pass.:	Maximum quantity: 450 L	Packaging instructions: 964
	Special Instructions:	A97, A158, A197	

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: E1

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

Product
Point 3

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:

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
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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

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
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7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
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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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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.