# 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 15135-2856**

Product name **EPOXY ADHESIVE FOR METALS (A)**

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

Intended use **Epoxy 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**

**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:

| | | |
| --- | --- | --- |
| Serious eye damage, category 1 | H318 | Causes serious eye damage. |
| Skin irritation, category 2 | H315 | Causes skin irritation. |
| Skin sensitization, category 1A | H317 | May cause an allergic skin reaction. |
| Hazardous to the aquatic environment, chronic toxicity, category 2 | H411 | Toxic to aquatic life with long lasting effects. |

**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:

| | |
|---|---|
| **H318** | Causes serious eye damage. |
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H411** | Toxic to aquatic life with long lasting effects. |

Precautionary statements:

| | |
|---|---|
| **P280** | Wear protective gloves / eye protection / face protection. |
| **P272** | Contaminated work clothing should not be allowed out of the workplace. |
| **P273** | Avoid release to the environment. |
| **P302+P352** | IF ON SKIN: wash with plenty of water. |

**Contains:** 2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE
FORMALDEHYDE, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORINE-2,3-EPOXYPROPANE AND PHENOL

**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)** |
|---|---|---|
| **2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE**<br>CAS 1675-54-3<br>EC 216-823-5<br>INDEX -<br>Reg. no. 01-2119456619-26-XXXX | 70 ≤ x < 74 | Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411 |
| **FORMALDEHYDE, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORINE-2,3-EPOXYPROPANE AND PHENOL**<br>CAS 9003-36-5<br>EC 500-006-8<br>INDEX -<br>Reg. no. 01-2119454392-40-XXXX | 19,5 ≤ x < 21 | Skin Irrit. 2 H315, Skin Sens. 1A H317, Aquatic Chronic 2 H411 |
| **[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE** | | |

| | | |
|---|---|---|
| CAS 2530-83-8<br>EC 219-784-2<br>INDEX -<br>Reg. no. 01-2119513212-58-XXXX | 4,5 ≤ x < 5 | Eye Dam. 1 H318 |
| **ALUMINIUM POWDER (PYROPHORIC)**<br>CAS 7429-90-5<br>EC 231-072-3<br>INDEX 013-001-00-6<br>Reg. no. 01-2119529243-45-XXXX | 4,5 ≤ x < 5 | Pyr. Sol. 1 H250, Water-react. 2 H261, Classification note according to Annex VI to the CLP Regulation: T |

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**

Regulatory References:

| | | |
| --- | --- | --- |
| 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) |
| 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 |
| | TLV-ACGIH | ACGIH 2019 |

**2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE**

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0,006 | mg/l |
| Normal value in marine water | 0,001 | mg/l |
| Normal value for fresh water sediment | 0,341 | mg/kg |
| Normal value for marine water sediment | 0,034 | mg/kg |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the food chain (secondary poisoning) | 11 | mg/kg |
| Normal value for the terrestrial compartment | 0,065 | 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 | | | | 0,5 mg/kg bw/d | | | | 4,93 mg/kg bw/d |
| Inhalation | | | | 0,87 mg/m3 | | | | 4,93 mg/m3 |
| Skin | | | | 8,93 mg/kg bw/d | | | | 0,75 mg/kg bw/d |

**ALUMINIUM POWDER (PYROPHORIC)**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | FRA | 10 | | | | |
| WEL | GBR | 10 | | | | INHAL |
| WEL | GBR | 4 | | | | RESP |
| TLV | NOR | 2 | | | | |
| TLV-ACGIH | | 1 | 0,9 | | | |

**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 | | | | 7,9 mg/kg bw/d | | | | |
| Inhalation | | | | | | | 3,72 mg/m3 | 3,72 mg/m3 |

**[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 |

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

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

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

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.

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Use chemical resistant gloves classified according to EN374: protective gloves against chemicals and microorganisms. Examples of preferred barrier material for gloves include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Nitrile / butadiene rubber ("nitrile" or "NBR"). Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). In the event of prolonged or frequently repeated contact, a glove with a protection class of 6 is recommended (breakthrough time greater than 480 minutes according to EN 374). When only brief contact is expected, a glove with a protection class of 1 or more is recommended (breakthrough time greater than 10 minutes according to EN 374). NOTICE: selection of a specific glove for a particular application and duration of use in

a work environment should also take into account all relevant factors in the workplace such as, but not limited to: Other chemicals that can be handled , physical requirements (cut / puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as instructions / specifications provided by the glove supplier.

ALUMINIUM POWDER (PYROPHORIC)

Handle according to good industrial hygiene and safety practices. Wear suitable protective clothing and equipment.

[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 | pasty |
| Colour | aluminum |
| Odour | mild |
| Odour threshold | Not available |
| pH | Not applicable |
| Melting point / freezing point | Not available |
| Initial boiling point | > 250 °C |
| Boiling range | Not available |
| Flash point | > 150 °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 | 1 |
| Solubility | insoluble |
| Partition coefficient: n-octanol/water | Not available |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | >20,5 mm2/sec (40°C) |
| 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.

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

It will not occur on its own. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with a significant accumulation of heat.

FORMALDEHYDE, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORINE-2,3-EPOXYPROPANE AND PHENOL

Reacts with acids, alkalis and oxidizing agents. Reacts with amines.

[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.

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Avoid short-term exposure to temperatures above 300 ° C
Potentially violent decomposition can occur above 350 ° C
Avoid prolonged exposure to temperatures above 250 ° C
The generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

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

Avoid contact with sources of ignition.

**10.5. Incompatible materials**

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Avoid contact with oxidizing materials. Avoid contact with: acids. Bases. Avoid unintentional contact with amines.

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

Reacts with water or moisture to form methanol

**10.6. Hazardous decomposition products**

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Decomposition products depend on temperature, air supply and the presence of other materials. The gases are released during decomposition. The uncontrolled exothermic reaction of the epoxy resins releases phenols, carbon monoxide and water.

FORMALDEHYDE, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORINE-2,3-EPOXYPROPANE AND PHENOL

Carbon monoxide and carbon dioxide.

[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

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 420
Reliability: 1
Species: Rat (Wistar; female)
Route of exposure: Oral
Results: LD50> 2000 mg / kg bw
Method: OECD 402
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Dermal
Results: LD50> 2000 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

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Slightly irritating

[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 damage

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

[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 SENSITIZATION

Sensitizing for the skin

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 429
Reliability: 1
Species: Mouse (CBA / J; female)
Route of exposure: Dermal
Results: Sensitizing

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

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

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 472 in vitro test
Reliability: 1
Species: S. typhimurium, E. Coli
Results: Negative
Method: OECD 488-test in vivo
Reliability: 1
Species: Rat (F344 big blue; 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

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
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
2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 416
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: Negative (fertility)

Adverse effects on development of the offspring
2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: The EPA: TSCA test guidelines (EPA, 1985)
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Negative (development)

[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

Does not meet the classification criteria for this hazard class

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

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

ALUMINIUM POWDER (PYROPHORIC)

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.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE

Method: OECD 408
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative
Method: OECD 411
Reliability: 1
Species: Mouse (B6C3F1; male)
Route of exposure: Dermal
Results: Negative

ALUMINIUM POWDER (PYROPHORIC)

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

[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 is toxic for aquatic organisms. In the long term, it have negative effects on acquatic 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 |
| 2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE | |
| LC50 - for Fish | 2 mg/l/96h |

| | |
|---|---|
| EC50 - for Crustacea | 1,8 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 11 mg/l/72h |
| EC10 for Algae / Aquatic Plants | 4,2 mg/l/72h |
| Chronic NOEC for Algae / Aquatic Plants | 4,2 mg/l |

**12.2. Persistence and degradability**

[3- (2,3-EPOSSIPROPOSSI) PROPIL] TRIMETOXYSYLANE
Quickly degradable in water.

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

ALUMINIUM POWDER (PYROPHORIC)

| | |
|---|---|
| Solubility in water | 0 mg/l |

Degradability: information not available

**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.

2,2-BIS (4- (2,3-epoxypropoxy) PHENYL) PROPANE
This product, when disposed of in its unused and uncontaminated state, must be treated as hazardous waste according to the EC Directive 2008/98 / EC. Disposal practices must comply with all national and provincial laws and local or local laws governing hazardous waste. Further evaluation may be required for used, contaminated and residual materials. Do not discharge into sewers, onto the ground or into any body of water.

[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 | Limited Quantities: 5 L | Tunnel restriction code: (-) |
| | Special Provision: - | | |
| 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: E2

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

Product
Point 3 - 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage 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:

| | |
| --- | --- |
| **Pyr. Sol. 1** | Pyrophoric solid, category 1 |
| **Water-react. 2** | Substance or mixture which in contact with water emits flammable gas, category 2 |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **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 |
| **Aquatic Chronic 2** | Hazardous to the aquatic environment, chronic toxicity, category 2 |
| **H250** | Catches fire spontaneously if exposed to air. |
| **H261** | In contact with water releases flammable gases. |
| **H318** | Causes serious eye damage. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H411** | Toxic to aquatic life with long lasting effects. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number

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

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
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.

Changes to previous review:
The following sections were modified:

02 / 03 / 04 / 06 / 07 / 08 / 10 / 11 / 12 / 13 / 16.

# Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

**1.1. Product identifier**

Code: **411 00 15135-2856-B**

Product name **EPOXY ADHESIVE FOR METALS (B)**

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

Intended use **Epoxy 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**

**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:

| | | |
| --- | --- | --- |
| Serious eye damage, category 1 | H318 | Causes serious eye damage. |
| Skin sensitization, category 1 | H317 | May cause an allergic skin reaction. |
| Hazardous to the aquatic environment, chronic toxicity, category 3 | H412 | Harmful 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:

**H317** May cause an allergic skin reaction.
**H412** Harmful to aquatic life with long lasting effects.
**EUH208** Contains:, HYDROQUINONE
May produce an allergic reaction.

Precautionary statements:

**P280** Wear protective gloves/ protective clothing / eye protection / face protection.
**P272** Contaminated work clothing should not be allowed out of the workplace.
**P273** Avoid release to the environment.
**P302+P352** IF ON SKIN: wash with plenty of water / . . .
**P362+P364** Take off contaminated clothing and wash it before reuse.

**Contains:** REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

**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) |
|---|---|---|
| **REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID** | | |
| CAS - | 35 ≤ x < 37,5 | Skin Sens. 1 H317, Aquatic Chronic 3 H412 |
| EC 701-196-7 | | |
| INDEX - | | |
| Reg. no. 01-2120118957-46-XXXX | | |
| **1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA** | | |
| CAS 52338-87-1 | 6 ≤ x < 7 | Skin Corr. 1 H314, Eye Dam. 1 H318 |
| EC 257-861-2 | | |
| INDEX - | | |
| Reg. no. 01-2120781639-37-XXXX | | |

**HYDROQUINONE**

CAS 123-31-9 | 0,5 ≤ x < 0,6 | Carc. 2 H351, Muta. 2 H341, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10

EC 204-617-8

INDEX 604-005-00-4

Reg. no. 01-2119524016-51-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 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

### 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**

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) |
| 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 |
| | TLV-ACGIH | ACGIH 2019 |

**REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID**

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 7 | mg/l |
| Normal value in marine water | 0,7 | mg/l |
| Normal value for fresh water sediment | 32,2 | mg/kg |
| Normal value for marine water sediment | 3,2 | mg/kg |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 2,3 | 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 | | | | 1,9 mg/kg bw/d | | | | |
| Inhalation | | | | 6,52 mg/m3 | | | | 22 mg/m3 |
| Skin | | | | 1,61 mg/kg bw/d | | | | 2,7 mg/kg bw/d |

**1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA**

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 9,3 | mg/l |
| Normal value in marine water | 0,93 | mg/l |
| Normal value for fresh water sediment | 0,372 | mg/kg |
| Normal value for marine water sediment | 3,72 | mg/kg |
| Normal value of STP microorganisms | 1,8 | mg/l |
| Normal value for the terrestrial compartment | 1,98 | 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 | | | | 0,833 mg/kg bw/d | | | | |
| Inhalation | | | | | | 17,4 mg/m3 | | 5,8 mg/m3 |
| Skin | | | | | | 4,8 mg/kg bw/d | | 2,33 mg/kg bw/d |

**HYDROQUINONE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 2 | | | | |
| VLEP | FRA | 2 | | | | |
| WEL | GBR | 0,5 | | | | |
| TLV | NOR | 0,5 | | | | |
| TLV-ACGIH | | 1 | | | | |

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0,057 | mg/l |
| Normal value in marine water | 0,057 | mg/l |

| | | |
|---|---|---|
| Normal value for fresh water sediment | 0,49 | mg/kg |
| Normal value for marine water sediment | 0,049 | mg/kg |
| Normal value of STP microorganisms | 0,71 | mg/l |
| Normal value for the terrestrial compartment | 0,064 | 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 | | | | 0,6 mg/kg bw/d | | | | |
| Inhalation | | | | 1,05 mg/m3 | | | | 2,1 mg/m3 |
| Skin | | | | 1,66 mg/kg bw/d | | | | 3,33 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.

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 III 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 a hood visor or protective visor combined with airtight 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.

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Wear chemical resistant gloves such as rubber, neoprene or vinyl and workwear with long sleeves.

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Neoprene guarantors, chemical resistant waterproof gloves conforming to an approved standard must always be worn when handling chemicals if a risk assessment indicates that this is necessary.

HYDROQUINONE

Hand protection: rubber gloves, long-sleeved gloves.
The selected protective gloves must meet the specifications of the EU Directive 89/686 / EEC and the EN 374 standard that derives from it.
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.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | pasty |
| Colour | neutral |
| Odour | characteristic |
| Odour threshold | Not available |
| pH | Not applicable |
| Melting point / freezing point | Not available |
| Initial boiling point | > 250 °C |
| Boiling range | Not available |
| Flash point | 250 °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 |
| Partition coefficient: n-octanol/water | Not available |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | 20,5 mm2/sec (40°C) |
| 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.

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Oxidants, acids.

10.4. Conditions to avoid

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

HYDROQUINONE

Heat, flames and sparks.
Static electricity
Avoid the formation of dust

10.5. Incompatible materials

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Organic acids (eg acetic acid, citric acid etc.).
Mineral acids.
sodium hypochlorite
The reaction with peroxides can cause violent decomposition of the peroxide, which could cause an explosion.
Oxidizing agents

10.6. Hazardous decomposition products

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Carbon monoxide, carbon dioxide, hydrogen sulphide, sulfur dioxide, sulfur trioxide.

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Carbon monoxide
Carbon dioxide ($CO_2$)
Nitrogen oxides (NOx)
Nitrogen oxide can react with water vapors to form corrosive nitric acid.
Ammonia

HYDROQUINONE

In case of release of combustion or thermal decomposition (pyrolysis): toxic gas.

## 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)

HYDROQUINONE

LD50 (Oral) 302 mg/kg Rat

LD50 (Dermal) > 900 mg/kg Rat

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Method: OECD 401
Reliability: 2
Species: Rat (Charles River; male / female)
Route of exposure: Oral
Results: Not classified
Method: Equivalent or similar to OECD 403
Reliability: 2
Species: Rat (Albino Charles River; male / female)
Route of exposure: Inhalation (vapors)

Results: Not classified
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Not classified

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Method: Equivalent or similar to EU Method B.1
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: LD50 ca. 5 126 mg / kg bw
Method: Equivalent or similar to EU Method B.3
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Dermal
Results: LD50 ca. 2 050 mg / kg bw

HYDROQUINONE

Method: OECD 401
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LD50> 375 mg / kg bw
Method: OECD 402
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: LD50> 2000 mg / kg bw

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

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

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Method: OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Non corrosive

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Method: Equivalent or similar to OECD 405
Reliability: 2
Species: Rabbit (New Zealand Albino)
Route of exposure: Ocular
Results: Not classified

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Category 1 (irreversible effects on the eye)

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
May produce an allergic reaction.Contains:HYDROQUINONE

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Metodo: OECD 429
Affidabilità: 1
Specie: Topo (CBA/J; femmina)
Via d'esposizione: Cutanea
Risultati: Sensibilizzante

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Metodo: Equivalente o similare a OECD 406
Affidabilità: 1
Specie: Porcellino d`india (maschio)
Via d'esposizione: Cutanea
Risultati: Non sensibilizzante

HYDROQUINONE

Method: Equivalent or similar to OECD 429
Reliability: 2
Species: Mouse (CBA; female)
Route of exposure: Dermal
Results: Sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

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

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Method: OECD 473 in vitro test
Reliability: 1
Species: Chinese hamster (male / female)
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 1
Species: Mouse (male / female)
Route of exposure: Oral
Results: Negative

HYDROQUINONE

Method: OECD 473 in vitro test
Reliability: 1
Species: Lymphocytes
Results: Negative with and without metabolic activation
Method: OECD 489-test in vivo
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

HYDROQUINONE

Method: Equivalent or similar to OECD 453
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: LOAEL = 50 mg / kg bw / day

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

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

Adverse effects on sexual function and fertility
HYDROQUINONE

Method: Equivalent or similar to OECD 478
Reliability: 1
Species: Rat (CRL; male / female)
Route of exposure: Oral
Results: Negative (fertility)

Adverse effects on development of the offspring
HYDROQUINONE

Method: EPA OTS 798.4900
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Oral
Results: Negative (development)

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

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

HYDROQUINONE

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

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

Method: OECD 408
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: NOAEL = 75 mg / kg bw / day

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

Method: OECD 407
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL ca. 500 mg / kg bw / day

HYDROQUINONE

Method: Not indicated
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: NOAEL = 50 mg / kg bw / day
Bibliographic reference: Toxicity and carcinogenicity of hydroquinone in F344 / N rats and B6C3F1 mice, Kari FW, Bucher J, Eustis SL, Haseman JK, Huff JE (1992)
Method: Equivalent or similar to OECD 411
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Dermal
Results: male NOAEL = 73.9 mg / kg bw / day, female NOAEL = 109.6 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 the aquatic organisms. In the long term, it have negative effects on aquatic environment.

**12.1. Toxicity**

| HYDROQUINONE | |
|---|---|
| LC50 - for Fish | 0,044 mg/l/96h Danio rerio |
| EC50 - for Crustacea | 0,13 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 17 mg/l/72h Chlorococcales |

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA

| | |
|---|---|
| LC50 - for Fish | > 1000 mg/l/96h |
| EC50 - for Crustacea | 93 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | > 100 mg/l/72h |
| EC10 for Algae / Aquatic Plants | > 100 mg/l/72h |

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID

| | |
|---|---|
| LC50 - for Fish | 87 mg/l/96h |
| EC50 - for Crustacea | 12 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | > 733 mg/l/72h |

**12.2. Persistence and degradability**

HYDROQUINONE
Easily degradable in water, 70% in 14 days.

HYDROQUINONE

| | |
|---|---|
| Solubility in water | > 10000 mg/l |

Rapidly degradable

**12.3. Bioaccumulative potential**

HYDROQUINONE

| | |
|---|---|
| Partition coefficient: n-octanol/water | 0,59 |
| BCF | 3,162 |

**12.4. Mobility in soil**

HYDROQUINONE

| | |
|---|---|
| Partition coefficient: soil/water | 1,585 |

**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.

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

REACTION PRODUCTS OF PENTAERITRITOL, PROPOSSILATE AND 1-CHLORINE-2,3-EPOXYPROPANE WITH SULPHIDIC ACID
Dispose of all contaminated waste and equipment in accordance with all applicable federal, state and local health and environmental regulations.
Do not allow the material to contaminate the underground water system. Do not contaminate surface waters.

1,3-BIS [3- (DYMETHYLAMINO) PROPYL] UREA
Dispose of the container and unused contents in accordance with local and local requirements.

HYDROQUINONE
It should not be released into the environment.
Do not dispose of with household waste.
It must be incinerated in a suitable incineration plant in possession of an authorization issued by the competent authorities.

## SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number**

Not applicable

**14.2. UN proper shipping name**

Not applicable

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Not applicable

**14.6. Special precautions for user**

Not applicable

**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: None

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:

| | |
| --- | --- |
| **Carc. 2** | Carcinogenicity, category 2 |
| **Muta. 2** | Germ cell mutagenicity, category 2 |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **Skin Corr. 1** | Skin corrosion, category 1 |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **Aquatic Acute 1** | Hazardous to the aquatic environment, acute toxicity, category 1 |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| **H351** | Suspected of causing cancer. |
| **H341** | Suspected of causing genetic defects. |
| **H302** | Harmful if swallowed. |
| **H314** | Causes severe skin burns and eye damage. |
| **H318** | Causes serious eye damage. |
| **H317** | May cause an allergic skin reaction. |
| **H400** | Very toxic to aquatic life. |
| **H412** | Harmful to aquatic life with long lasting effects. |

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

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament

5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
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.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 06 / 08 / 10 / 11 / 12 / 13 / 16.