

SAFETY DATA SHEET

Electroguard E30 Activator

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

1.1 Product identifier

Product name : Electroguard E30 Activator
Product description : Hardener.
Product type : Liquid.

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

| Identified uses |
|---|
| Industrial uses: Uses of substances as such or in preparations* at industrial sites Professional uses: Public domain (administration, education, entertainment, services, craftsmen) |

| Uses advised against | Reason |
|----------------------|---|
| Consumer use | Product is not intended for consumer use. |

1.3 Details of the supplier of the safety data sheet

Edson Electronics Ltd.
Unit 2
Amble Industrial Estate
Amble
Northumberland
NE65 OPE
UK

e-mail address of person responsible for this SDS : rpmeurohas@ro-m.com

1.4 Emergency telephone number

Telephone number : +44 (0) 207 858 1228
Hours of operation : 24 / 7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Dam. 1, H318
Skin Sens. 1, H317
STOT SE 3, H335
Aquatic Chronic 3, H412

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Xn; R20
Xi; R41, R37/38
R43
R52/53

SECTION 2: Hazards identification

Human health hazards : Harmful by inhalation. Risk of serious damage to eyes. Irritating to respiratory system and skin. May cause sensitisation by skin contact.

Environmental hazards : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Harmful if inhaled.
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : Use only outdoors or in a well-ventilated area. Wear protective gloves and eye protection: nitrile rubber gloves and Safety glasses with side shields. Avoid release to the environment.

Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor. IF ON SKIN: Wash with plenty of soap and water.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Contains isocyanates. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

| Product/ingredient name | Identifiers | % | Classification | | Type |
|---|--|---------|--|---|--------|
| | | | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] | |
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | REACH #: 01-2119488177-26 EC: 931-288-4 CAS: 28182-81-2 | >=90 | Xn; R20 Xi; R37 R43 | Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335 | [1] |
| poly(oxy-1,2-ethanediyl), α -tridecyl- ω -hydroxy-, phosphate ethyldiisopropylamine | CAS: 9046-01-9 EC: 230-392-0 CAS: 7087-68-5 | 5 - <10 | Xi; R41, R38 N; R51/53 | Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411 | [1] |
| Phosphoric acid, butyl ester | EC: 235-826-2 CAS: 12788-93-1 | 1 - <3 | F; R11 Xn; R22 C; R34 | Flam. Liq. 2, H225 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 | [1] |
| hexamethylene-diisocyanate | REACH #: 01-2119457571-37 EC: 212-485-8 CAS: 822-06-0 Index: 615-011-00-1 | 1 - <5 | C; R34 | Skin Corr. 1B, H314 Eye Dam. 1, H318 | [1] |
| | | <0,5 | T; R23 Xi; R36/37/38 R42/43 | Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 | [1][2] |
| | | | See Section 16 for the full text of the R-phrases declared above. | See Section 16 for the full text of the H statements declared above. | |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

SECTION 4: First aid measures

- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

Contains hexamethylene-1,6-diisocyanate oligomer (type uretdione), hexamethylene-di-isocyanate. May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO₂, powders, water spray or mist.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.
- Additional information** : No unusual hazard if involved in a fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and materials for containment and cleaning up

- : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13).

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

7.1 Precautions for safe handling

- : Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Care should be taken when re-opening partly-used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one.

SECTION 7: Handling and storage

Comply with the health and safety at work laws.

Do not allow to enter drains or watercourses.

Information on fire and explosion protection

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.

Keep container tightly closed.

Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|-----------------------------|--|
| hexamethylene-di-isocyanate | EH40/2005 WELs (United Kingdom (UK), 12/2011). Skin sensitiser. STEL: 0,07 mg/m ³ , (as NCO) 15 minutes. TWA: 0,02 mg/m ³ , (as NCO) 8 hours. |

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

SECTION 8: Exposure controls/personal protection

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|--|------|-----------------------|------------------------|------------|---------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | DNEL | Short term Inhalation | 0,7 mg/m ³ | Workers | Local |
| | DNEL | Long term Inhalation | 0,35 mg/m ³ | Workers | Local |
| hexamethylene-di-isocyanate | DNEL | Short term Inhalation | 1 mg/m ³ | Workers | Local |
| | DNEL | Long term Inhalation | 0,5 mg/m ³ | Workers | Local |

PNECs

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|--|------------------------|------------------|---------------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | Fresh water | >0,05 mg/l | - |
| | Marine | >0,005 mg/l | - |
| | Fresh water sediment | >1,33 mg/kg dwt | - |
| | Marine water sediment | >0,133 mg/kg dwt | - |
| | Soil | >0,066 mg/kg dwt | - |
| | Sewage Treatment Plant | 55,6 mg/l | - |
| hexamethylene-di-isocyanate | Fresh water | 0,127 mg/l | - |
| | Marine | 0,0127 mg/l | - |
| | Sediment | 266700 mg/kg dwt | - |
| | Soil | 53182 mg/kg dwt | - |
| | Sewage Treatment Plant | 38,28 mg/l | - |

8.2 Exposure controls

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn. (See Personal protection.)

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields. (EN166)

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

SECTION 8: Exposure controls/personal protection

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: nitrile rubber

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

EN 374-3 : 2003

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Body protection : Wear overalls or long sleeved shirt. (EN 467)

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : By spraying: air-fed respirator.
By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid.
- Colour** : Colourless to light yellow.
- Odour** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: >106°C
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : 1,14 to 1,15
- Solubility(ies)** : Not available.
- Solubility in water** : Not available.

SECTION 9: Physical and chemical properties

| | |
|--|--|
| Partition coefficient: n-octanol/ water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : Not available. |
| Viscosity | : Dynamic (room temperature): 1200 mPa·s |
| Explosive properties | : Not available. |
| Oxidising properties | : Not available. |

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

| | |
|--|--|
| 10.1 Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| 10.2 Chemical stability | : Stable under recommended storage and handling conditions (see Section 7). |
| 10.3 Possibility of hazardous reactions | : The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container. |
| 10.4 Conditions to avoid | : In a fire, hazardous decomposition products may be produced. |
| 10.5 Incompatible materials | : Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols. |
| 10.6 Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO ₂ and smoke can be generated. |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

Contains hexamethylene-1,6-diisocyanate oligomer (type uretdione), hexamethylene-di-isocyanate. May produce an allergic reaction.

Acute toxicity

SECTION 11: Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---------------------------------|---------|-----------------------|----------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | LC50 Inhalation Dusts and mists | Rat | 158 mg/m ³ | 4 hours |
| poly(oxy-1,2-ethanediyl), α -tridecyl- ω -hydroxy-, phosphate | LD50 Oral | Rat | >5000 mg/kg | - |
| | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| ethyldiisopropylamine | LD50 Oral | Rat | >2000 mg/kg | - |
| | LD50 Oral | Rat | 317 mg/kg | - |
| hexamethylene-diisocyanate | LC50 Inhalation Dusts and mists | Rat | 462 mg/m ³ | 4 hours |
| | LC50 Inhalation Vapour | Rat | 124 mg/m ³ | 4 hours |
| | LCLo Inhalation Vapour | Rat | 60 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | >7000 mg/kg | - |

Conclusion/Summary : Harmful if swallowed.

Acute toxicity estimates

Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--|------------------------------------|---------|-------|----------|-------------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | Skin - Oedema | Rabbit | 1 | 4 hours | - |
| hexamethylene-diisocyanate | Eyes - Cornea opacity | Rabbit | 1 | - | - |
| | Skin - Erythema/Eschar | Rabbit | 3 | - | - |
| | Eyes - Redness of the conjunctivae | Rabbit | 3 | - | - |

Conclusion/Summary

Skin : Causes skin irritation.

Eyes : Causes serious eye damage.

Respiratory : May cause respiratory irritation.

Sensitisation

| Product/ingredient name | Route of exposure | Species | Result |
|--|-------------------|------------|-------------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | skin | Guinea pig | Sensitising |
| hexamethylene-diisocyanate | skin | Guinea pig | Sensitising |
| | Respiratory | Guinea pig | Sensitising |

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

SECTION 11: Toxicological information

| Product/ingredient name | Test | Experiment | Result |
|--|----------|---|----------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | OECD 476 | Subject: Mammalian-Animal | Positive |
| hexamethylene-di-isocyanate | OECD 471 | Subject: Bacteria | Negative |
| | OECD 471 | Experiment: In vitro | Negative |
| | OECD 476 | Subject: Bacteria Experiment: In vitro | Negative |
| | OECD 474 | Subject: Mammalian-Animal Experiment: In vivo Subject: Mammalian-Animal | Negative |

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------------------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | Category 3 | Not applicable. | Respiratory tract irritation |
| hexamethylene-di-isocyanate | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.

Do not allow to enter drains or watercourses.

| Product/ingredient name | Result | Species | Exposure |
|--|-----------------------|---------------------------------|----------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | Acute EC50 5560 mg/l | Bacteria | 3 hours |
| | Acute EC50 >100 mg/l | Daphnia spec. | 48 hours |
| | Acute IC50 >1000 mg/l | Algae - Scenedesmus subspicatus | 72 hours |
| ethyl-diisopropylamine | Acute LC50 >100 mg/l | Fish | 96 hours |
| | Acute EC50 74,3 mg/l | Daphnia spec. - Daphnia Magna | 48 hours |
| | Acute EC50 >77,4 mg/l | Algae | 72 hours |
| hexamethylene-di-isocyanate | Acute EC50 842 mg/l | Bacteria | 3 hours |

Conclusion/Summary : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

SECTION 12: Ecological information

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|------------------------------|------|----------|
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | OECD 302C | 18 % - Not readily - 28 days | - | - |
| hexamethylene-di-isocyanate | OECD 301C | 1 % - Not readily - 28 days | - | - |
| | OECD 301F | 42 % - 10 days | - | - |
| | EU 301F Ready Biodegradability - Manometric Respirometry Test | 42 % - 28 days | - | - |

Conclusion/Summary : This product has not been tested for biodegradation.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-----------------------|------------------|------------------|
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | Fresh water 0,25 days | 50%; 0.03 day(s) | Not readily |
| hexamethylene-di-isocyanate | - | - | Not readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | - | 788 | high |
| hexamethylene-di-isocyanate | 1,08 | - | low |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Non-volatile.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

SECTION 13: Disposal considerations

Disposal considerations : Do not allow to enter drains or watercourses. Residues in empty containers should be neutralised with a decontaminant (see section 6).
 Dispose of according to all federal, state and local applicable regulations.
 If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
 For further information, contact your local waste authority.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

| Waste code | Waste designation |
|------------|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other dangerous substances |

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
 Empty containers must be scrapped or reconditioned.
 Not emptied containers are hazardous waste.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | IMDG | IATA |
|--|----------------|----------------|----------------|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - |
| 14.4 Packing group | - | - | - |
| 14.5 Environmental hazards | No. | No. | No. |
| Additional information | - | - | - |

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

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

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

CN code : 3209 90 00

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC for Ready-for-Use Mixture : 2004/42/EC - IIA/j: 140g/l (2007) 140g/l (2010). <= 30g/l VOC.

Europe inventory : Not determined.

National regulations

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification | Justification |
|-------------------------|-----------------|
| Acute Tox. 4, H332 | Expert judgment |
| Skin Irrit. 2, H315 | Expert judgment |
| Eye Dam. 1, H318 | Expert judgment |
| Skin Sens. 1, H317 | Expert judgment |
| STOT SE 3, H335 | Expert judgment |
| Aquatic Chronic 3, H412 | Expert judgment |

Full text of abbreviated H statements :

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.

SECTION 16: Other information

- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] :

- Acute Tox. 1, H330 ACUTE TOXICITY: INHALATION - Category 1
- Acute Tox. 4, H302 ACUTE TOXICITY: ORAL - Category 4
- Acute Tox. 4, H332 ACUTE TOXICITY: INHALATION - Category 4
- Aquatic Chronic 2, H411 AQUATIC TOXICITY (CHRONIC) - Category 2
- Aquatic Chronic 3, H412 AQUATIC TOXICITY (CHRONIC) - Category 3
- Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
- Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
- Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2
- Resp. Sens. 1, H334 RESPIRATORY SENSITIZATION - Category 1
- Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B
- Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
- Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1
- STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

Full text of abbreviated R phrases :

- R11- Highly flammable.
- R23- Toxic by inhalation.
- R20- Harmful by inhalation.
- R22- Harmful if swallowed.
- R34- Causes burns.
- R41- Risk of serious damage to eyes.
- R37- Irritating to respiratory system.
- R38- Irritating to skin.
- R37/38- Irritating to respiratory system and skin.
- R36/37/38- Irritating to eyes, respiratory system and skin.
- R43- May cause sensitisation by skin contact.
- R42/43- May cause sensitisation by inhalation and skin contact.
- R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD] :

- F - Highly flammable
- T - Toxic
- C - Corrosive
- Xn - Harmful
- Xi - Irritant
- N - Dangerous for the environment

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Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.