



# SAFETY DATA SHEET

4903 Heavy-Duty Varnish - Matt Activator

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

### 1.1 Product identifier

**Product name** : 4903 Heavy-Duty Varnish - Matt Activator  
**Product description** : Hardener.  
**Product type** : Liquid.  
**UFI** : 27K0-E0V6-C009-2NMH

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

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

### 1.3 Details of the supplier of the safety data sheet

Rust-Oleum Europe - Martin Mathys NV, Kolenbergstraat 23, B-3545 Zelem, Belgium  
 Telephone no.: +32 (0) 13 460 200  
 Fax no.: +32 (0) 13 460 201

**e-mail address of person responsible for this SDS** : rpmeurohas@rustoleum.eu

### 1.4 Emergency telephone number

#### Supplier

**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

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.  
 See Section 16 for the full text of the H statements declared above.  
 See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

## SECTION 2: Hazards identification

|   |   |   |
|---|---|---|
| <b>Hazard pictograms</b>  | : |    |
| <b>Signal word</b>  | : | Danger  |
| <b>Hazard statements</b>  | : | Harmful if inhaled.<br>Causes serious eye damage.<br>Causes skin irritation.<br>May cause an allergic skin reaction.<br>May cause respiratory irritation.<br>Harmful to aquatic life with long lasting effects.   |
| <b><u>Precautionary statements</u></b>  |   |   |
| <b>General</b>  | : | Not applicable.   |
| <b>Prevention</b>   | : | P271 - Use only outdoors or in a well-ventilated area.<br>P280 - Wear protective gloves and eye or face protection.<br>- nitrile rubber (0.5mm) gloves and safety glasses with side-shields.  |
| <b>Response</b>   | : | P305 - IF IN EYES:<br>P351 - Rinse cautiously with water for several minutes.<br>P338 - Remove contact lenses, if present and easy to do.<br>P304 - IF INHALED:<br>P312 - Call a POISON CENTER or physician if you feel unwell. Call a doctor if you feel unwell.<br>P303 - IF ON SKIN (or hair):<br>P352 - Wash with plenty of soap and water. |
| <b>Storage</b>  | : | Not applicable.   |
| <b>Disposal</b>   | : | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.  |
| <b>Hazardous ingredients</b>  | : | hexamethylene-1,6-diiisocyanate homopolymer; Poly(oxy-1,2-ethanediyl), $\alpha$ -tridecyl- $\omega$ -hydroxy-, phosphate and hexamethylene-di-isocyanate  |
| <b>Supplemental label elements</b>  | : | Contains isocyanates. May produce an allergic reaction.   |
| <b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b> | : | FOR INDUSTRIAL USE ONLY   |
| <b><u>Special packaging requirements</u></b>  |   |   |
| <b>Containers to be fitted with child-resistant fastenings</b>  | : | Not applicable.   |
| <b>Tactile warning of danger</b>  | : | Not applicable.   |
| <b>2.3 Other hazards</b>  |   |   |
| <b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>                                  | : | This mixture does not contain any substances that are assessed to be a PBT or a vPvB.   |
| <b>Other hazards which do not result in classification</b>  | : | None known.   |

**SECTION 3: Composition/information on ingredients****3.2 Mixtures** : Mixture

| Product/ingredient name                                    | Identifiers   | %    | Classification   |         |
|--|---|------|--|---------|
|  |   |      | Regulation (EC) No. 1272/2008 [CLP]  | Type    |
| hexamethylene-1,6-diiisocyanate homopolymer                | REACH #:<br>01-2119485796-17<br>EC: 931-274-8<br>CAS: 28182-81-2                      | ≥90  | Acute Tox. 4, H332<br>Skin Sens. 1, H317<br>STOT SE 3, H335  | [1] [2] |
| Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, phosphate | CAS: 9046-01-9  | ≤5   | Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Chronic 2, H411   | [1]     |
| cyclohexyldimethylamine                                    | EC: 202-715-5<br>CAS: 98-94-2   | ≤3   | Flam. Liq. 3, H226<br>Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Acute Tox. 3, H331<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Aquatic Chronic 2, H411   | [1]     |
| hexamethylene-diisocyanate                                 | REACH #:<br>01-2119457571-37<br>EC: 212-485-8<br>CAS: 822-06-0<br>Index: 615-011-00-1 | ≤0,3 | Acute Tox. 3, H331<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>STOT SE 3, H335<br><br><b>See Section 16 for the full text of the H statements declared above.</b> | [1] [2] |

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, vPvBs or Substances of equivalent concern, 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  
 [6] Additional disclosure due to company policy

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.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

**SECTION 4: First aid measures**

**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. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. 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 homopolymer, hexamethylene-di-isocyanate. May produce an allergic reaction.

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur

**Ingestion** : Adverse symptoms may include the following:  
stomach pains

**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, CO<sub>2</sub>, 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** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
- 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** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- 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

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## SECTION 6: Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- 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

The information in this section contains generic advice and guidance.

**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. CO<sub>2</sub> 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. 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)

**SECTION 7: Handling and storage****Recommendations** : Not available.**Industrial sector specific solutions** : Not available.**SECTION 8: Exposure controls/personal protection**

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

**8.1 Control parameters****Occupational exposure limits**

| Product/ingredient name                     | Exposure limit values  |
|---|--|
| hexamethylene-1,6-diiisocyanate homopolymer | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser.</b><br>STEL: 0,07 mg/m <sup>3</sup> , (as NCO) 15 minutes.<br>TWA: 0,02 mg/m <sup>3</sup> , (as NCO) 8 hours. |
| hexamethylene-di-isocyanate                 | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser.</b><br>STEL: 0,07 mg/m <sup>3</sup> , (as NCO) 15 minutes.<br>TWA: 0,02 mg/m <sup>3</sup> , (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**

| Product/ingredient name                     | Type | Exposure              | Value                 | Population | Effects |
|---|------|-----------------------|-----------------------|------------|---------|
| hexamethylene-1,6-diiisocyanate homopolymer | DNEL | Short term Inhalation | 1 mg/m <sup>3</sup>   | Workers    | Local   |
|   | DNEL | Long term Inhalation  | 0,5 mg/m <sup>3</sup> | Workers    | Local   |
| hexamethylene-di-isocyanate                 | DNEL | Short term Inhalation | 1 mg/m <sup>3</sup>   | Workers    | Local   |
|   | DNEL | Long term Inhalation  | 0,5 mg/m <sup>3</sup> | Workers    | Local   |

**PNECs**

| Product/ingredient name                     | Compartment Detail     | Value            | Method Detail |
|---|------------------------|------------------|---------------|
| hexamethylene-1,6-diiisocyanate homopolymer | Fresh water            | 0,127 mg/l       | -             |
|   | Marine                 | 0,0127 mg/l      | -             |
|   | Fresh water sediment   | 266700 mg/kg dwt | -             |
|   | Marine water sediment  | 26670 mg/kg dwt  | -             |
|   | Soil                   | 53182 mg/kg dwt  | -             |
|   | Sewage Treatment Plant | 38,28 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  | -             |

## SECTION 8: Exposure controls/personal protection

|  |                        |            |   |
|--|------------------------|------------|---|
|  | Sewage Treatment Plant | 38,28 mg/l | - |
|--|------------------------|------------|---|

### 8.2 Exposure controls

**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 Occupational exposure controls.)

#### 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 eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: safety glasses with side-shields (EN 166)

#### 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.

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: > 8 hours (breakthrough time): nitrile rubber (0.5mm)

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

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** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear overalls or long sleeved shirt.

**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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.



## SECTION 8: Exposure controls/personal protection

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

|   |  |
|---|--|
| <b>Physical state</b>                               | : Liquid.  |
| <b>Colour</b>                                       | : Colourless to light yellow.  |
| <b>Odour</b>  | : Odourless. [Slight]  |
| <b>Odour threshold</b>                              | : Not available.   |
| <b>pH</b>   | : Not available.   |
| <b>Melting point/freezing point</b>                 | : Not available.   |
| <b>Initial boiling point and boiling range</b>      | : 150°C  |
| <b>Flash point</b>                                  | : Closed cup: >100°C   |
| <b>Evaporation rate</b>                             | : Not available.   |
| <b>Flammability (solid, gas)</b>                    | : Not available.   |
| <b>Upper/lower flammability or explosive limits</b> | : Not available.   |
| <b>Vapour pressure</b>                              | : Not available.   |
| <b>Vapour density</b>                               | : Not available.   |
| <b>Relative density</b>                             | : 1,13 [DIN 51757]   |
| <b>Solubility(ies)</b>                              | : Easily soluble in the following materials: acetone.<br>Insoluble in the following materials: cold water and hot water. |
| <b>Partition coefficient: n-octanol/ water</b>      | : Not available.   |
| <b>Auto-ignition temperature</b>                    | : Not available.   |
| <b>Decomposition temperature</b>                    | : Not available.   |
| <b>Viscosity</b>                                    | : Dynamic (room temperature): 700 to 1500 mPa·s  |
| <b>Explosive properties</b>                         | : Not available.   |
| <b>Oxidising properties</b>                         | : 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** :
- 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.

**SECTION 10: Stability and reactivity**

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

| Product/ingredient name   | Result                          | Species      | Dose                    | Exposure |
|---|---------------------------------|--------------|-------------------------|----------|
| hexamethylene-1,6-diiisocyanate homopolymer                                 | LC50 Inhalation Dusts and mists | Rat          | 18500 mg/m <sup>3</sup> | 1 hours  |
|   | LC50 Inhalation Dusts and mists | Rat - Female | 390 mg/m <sup>3</sup>   | 4 hours  |
|   | LD50 Dermal                     | Rabbit       | >2000 mg/kg             | -        |
|   | LD50 Dermal                     | Rat          | >2000 mg/kg             | -        |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -tridecyl- $\omega$ -hydroxy-, phosphate | LD50 Oral                       | Rat          | >5000 mg/kg             | -        |
|   | LD50 Dermal                     | Rabbit       | >2000 mg/kg             | -        |
| cyclohexyldimethylamine   | LD50 Oral                       | Rat          | >2000 mg/kg             | -        |
|   | LD50 Dermal                     | Rat          | 370 mg/kg               | -        |
|   | LD50 Oral                       | Rat          | 348 mg/kg               | -        |
| hexamethylene-diisocyanate  | LC50 Inhalation Dusts and mists | Rat          | 124 mg/m <sup>3</sup>   | 4 hours  |
|   | LCLo Inhalation Dusts and mists | Rat          | 60 mg/m <sup>3</sup>    | 4 hours  |
|   | LD50 Dermal                     | Rabbit       | >7000 mg/kg             | -        |
|   |                                 |              |                         |          |

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

**Acute toxicity estimates**

| Route                        | ATE value |
|------------------------------|-----------|
| Inhalation (dusts and mists) | 1,5 mg/l  |

**Irritation/Corrosion**

| Product/ingredient name                     | Result                             | Species | Score | Exposure       | Observation |
|---|------------------------------------|---------|-------|----------------|-------------|
| hexamethylene-1,6-diiisocyanate homopolymer | Skin - Oedema                      | Rabbit  | 1     | 4 hours        | -           |
|   | Eyes - Cornea opacity              | Rabbit  | 1     | -              | -           |
|   | Eyes - Moderate irritant           | Rabbit  | -     | 100 milligrams | -           |
|   | Skin - Moderate irritant           | Rabbit  | -     | 500 milligrams | -           |
| hexamethylene-diisocyanate                  | 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**

## SECTION 11: Toxicological information

| Product/ingredient name                     | Route of exposure | Species             | Result                         |
|---|-------------------|---------------------|--------------------------------|
| hexamethylene-1,6-diiisocyanate homopolymer | skin              | Guinea pig          | Sensitising                    |
| hexamethylene-di-isocyanate                 | Respiratory skin  | Guinea pig<br>Mouse | Not sensitizing<br>Sensitising |
|   | 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

| Product/ingredient name                     | Test                 | Experiment   | Result               |
|---|----------------------|--|----------------------|
| hexamethylene-1,6-diiisocyanate homopolymer | OECD 471             | Subject: Bacteria  | Negative             |
| hexamethylene-di-isocyanate                 | OECD 476<br>OECD 471 | Subject: Mammalian-Animal<br>Experiment: In vitro<br>Subject: Bacteria | Negative<br>Negative |
|   | OECD 476             | Experiment: In vitro<br>Subject: Mammalian-Animal                      | Negative             |
|   | OECD 474             | Experiment: In vivo<br>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-diiisocyanate homopolymer | 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.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**SECTION 11: Toxicological information****Potential delayed effects** : Not available.**Potential chronic health effects**

| Product/ingredient name                    | Result                                      | Species | Dose                   | Exposure                              |
|--|---|---------|------------------------|---------------------------------------|
| hexamethylene-1,6-diisocyanate homopolymer | Chronic NOAEL Inhalation Dusts and mists    | Rat     | 3,3 mg/m <sup>3</sup>  | 6 hours; 5 days per week Intermittent |
|  | Sub-acute LCLo Inhalation Dusts and mists   | Rat     | 4,3 mg/m <sup>3</sup>  | 6 hours; 5 days per week Intermittent |
|  | Sub-chronic LC50 Inhalation Dusts and mists | Rat     | 14,7 mg/m <sup>3</sup> | 6 hours; 5 days per week Intermittent |
|  | Sub-acute LC50 Inhalation Dusts and mists   | Rat     | 89,9 mg/m <sup>3</sup> | 6 hours; 5 days per week Intermittent |
| hexamethylene-diisocyanate                 | Chronic LCLo Inhalation Vapour              | Rat     | 0,025 p.p.m.           | 30 days; 6 hours per day Intermittent |

**Conclusion/Summary** : Based on available data, the classification criteria are not met.**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.**Carcinogenicity** : No known significant effects or critical hazards.**Mutagenicity** : No known significant effects or critical hazards.**Teratogenicity** : No known significant effects or critical hazards.**Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**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.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

| Product/ingredient name                    | Result  | Species  | Exposure             |
|--|---|--|----------------------|
| hexamethylene-1,6-diisocyanate homopolymer | Acute EC50 >10000 mg/l                        | Bacteria   | 3 hours              |
|  | Acute EC50 >100 mg/l<br>Acute IC50 >1000 mg/l | Daphnia spec.<br>Algae - Scenedesmus subspicatus | 48 hours<br>72 hours |
|  | Acute LC50 >100 mg/l<br>Acute EC50 >77,4 mg/l | Fish<br>Algae                                    | 96 hours<br>72 hours |
| hexamethylene-diisocyanate                 | Acute EC50 842 mg/l                           | Bacteria   | 3 hours              |

**Conclusion/Summary** : Not available.**12.2 Persistence and degradability**

**SECTION 12: Ecological information**

| Product/ingredient name                     | Test  | Result                      | Dose | Inoculum |
|---|---|-----------------------------|------|----------|
| hexamethylene-1,6-diiisocyanate homopolymer | OECD 301C   | 2 % - Not readily - 28 days | -    | -        |
| hexamethylene-diisocyanate                  | OECD 301F   | 42 % - 10 days              | -    | -        |
|   | EU 301F Ready Biodegradability - Manometric Respirometry Test | 42 % - 28 days              | -    | -        |

**Conclusion/Summary** : Not available.

| Product/ingredient name                     | Aquatic half-life           | Photolysis       | Biodegradability |
|---|-----------------------------|------------------|------------------|
| hexamethylene-1,6-diiisocyanate homopolymer | Fresh water 0,32 days, 23°C | 50%; 0.49 day(s) | Not readily      |
| hexamethylene-diisocyanate                  | -                           | -                | Not readily      |

**12.3 Bioaccumulative potential**

| Product/ingredient name                     | LogP <sub>ow</sub> | BCF   | Potential |
|---|--------------------|-------|-----------|
| hexamethylene-1,6-diiisocyanate homopolymer | 8,38               | 706   | high      |
| cyclohexyldimethylamine                     | 2,01               | 35,66 | low       |
| hexamethylene-diisocyanate                  | 0,02               | 57,63 | low       |

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

**SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance.

**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 05 01*  | waste isocyanates |

**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.  
Dispose of containers contaminated by the product in accordance with local or national legal provisions.

**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 spill material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

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

**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

#### 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** : FOR INDUSTRIAL USE ONLY

#### Other EU regulations

**VOC** : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

**VOC for Ready-for-Use Mixture** : 2004/42/EC - IIA/i: 500g/l (2010). <= 35g/l VOC.

**Europe inventory** : All components are listed or exempted.

**Black List Chemicals (76/464/EEC)** :

#### Ozone depleting substances (1005/2009/EU)

Not listed.

#### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

#### Seveso Directive

This product is not controlled under the Seveso Directive.

#### National regulations

**Industrial use** : 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.

**References** : EH40/2005 Workplace exposure limits  
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2016/918

#### International regulations

##### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

##### Montreal Protocol (Annexes A, B, C, E)

Not listed.

##### Stockholm Convention on Persistent Organic Pollutants

Not listed.

##### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

##### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

**CN code** : 3909 30 00

**SECTION 15: Regulatory information****International lists****National inventory**

|                          |  |
|--------------------------|--|
| <b>Australia</b>         | : All components are listed or exempted.   |
| <b>Canada</b>            | : All components are listed or exempted.   |
| <b>China</b>             | : All components are listed or exempted.   |
| <b>Japan</b>             | : <b>Japan inventory (ENCS):</b> Not determined.<br><b>Japan inventory (ISHL):</b> Not determined. |
| <b>Malaysia</b>          | : Not determined   |
| <b>New Zealand</b>       | : All components are listed or exempted.   |
| <b>Philippines</b>       | : All components are listed or exempted.   |
| <b>Republic of Korea</b> | : All components are listed or exempted.   |
| <b>Taiwan</b>            | : All components are listed or exempted.   |
| <b>Turkey</b>            | : Not determined.  |
| <b>United States</b>     | : All components are listed or exempted.   |
| <b>Thailand</b>          | : Not determined.  |
| <b>Viet Nam</b>          | : Not determined.  |

**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.

**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  |

**Key literature references and sources for data** : -Manufacturer's Material Safety Data Sheet.

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

| <b>Classification</b>   | <b>Justification</b> |
|-------------------------|----------------------|
| 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 H-phrases referred to in sections 2 and 3**



**SECTION 16: Other information**

|  |  |  |
|--|--|--|
| <b>Full text of abbreviated H statements</b> | : H226<br>H301<br>H311<br>H314<br>H315<br>H317<br>H318<br>H319<br>H331<br>H332<br>H334<br><br>H335<br>H411<br>H412 | Flammable liquid and vapour.<br>Toxic if swallowed.<br>Toxic in contact with skin.<br>Causes severe skin burns and eye damage.<br>Causes skin irritation.<br>May cause an allergic skin reaction.<br>Causes serious eye damage.<br>Causes serious eye irritation.<br>Toxic if inhaled.<br>Harmful if inhaled.<br>May cause allergy or asthma symptoms or breathing difficulties if inhaled.<br>May cause respiratory irritation.<br>Toxic to aquatic life with long lasting effects.<br>Harmful to aquatic life with long lasting effects. |
|--|--|--|

|   |  |  |
|---|--|--|
| <b>Full text of classifications [CLP/GHS]</b> | : Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Acute Tox. 3, H331<br>Acute Tox. 4, H332<br>Aquatic Chronic 2, H411<br><br>Aquatic Chronic 3, H412<br><br>Eye Dam. 1, H318<br>Eye Irrit. 2, H319<br>Flam. Liq. 3, H226<br>Resp. Sens. 1, H334<br>Skin Corr. 1B, H314<br>Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>STOT SE 3, H335 | ACUTE TOXICITY (oral) - Category 3<br>ACUTE TOXICITY (dermal) - Category 3<br>ACUTE TOXICITY (inhalation) - Category 3<br>ACUTE TOXICITY (inhalation) - Category 4<br>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2<br>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2<br>FLAMMABLE LIQUIDS - Category 3<br>RESPIRATORY SENSITISATION - Category 1<br>SKIN CORROSION/IRRITATION - Category 1B<br>SKIN CORROSION/IRRITATION - Category 2<br>SKIN SENSITISATION - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 |
|---|--|--|

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**Notice to reader**

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. 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.