



# SAFETY DATA SHEET

9601 Rust-O-Thane - Activator

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

### 1.1 Product identifier

**Product name** : 9601 Rust-O-Thane - Activator  
**Product description** : Hardener.  
**Product type** : Liquid.  
**UFI** : GTD0-J0D6-2004-D4WF

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

Identified uses	
Industrial use 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

Tor Coatings Limited  
 Unit 21, White Rose Way, Follingsby Park, Gateshead, Tyne & Wear, NE10 8YX United Kingdom  
 Telephone no.: +44 (0) 191 4106611  
 Fax no.: +44 (0) 191 4920125  
 enquiries@tor-coatings.com

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

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : Not available.

#### Supplier

**Telephone number** : +44 870 8200418 / +44 2038073798

**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]**

## SECTION 2: Hazards identification

Flam. Liq. 3, H226  
Acute Tox. 4, H332  
Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
STOT SE 3, H335  
STOT RE 2, H373

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

#### Hazard pictograms



#### Signal word

: Warning

#### Hazard statements

: Flammable liquid and vapour.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Harmful if inhaled.  
May cause respiratory irritation.  
May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

##### Prevention

: P280 - Wear protective gloves. Wear eye or face protection.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P271 - Use only outdoors or in a well-ventilated area.  
P260 - Do not breathe vapour.

##### Response

: P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

##### Storage

: P403 + P235 - Store in a well-ventilated place. Keep cool.

##### Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

#### Hazardous ingredients

: polyhexamethylene diisocyanate  
xylene  
hexamethylene-di-isocyanate

#### Supplemental label elements

: Contains isocyanates. May produce an allergic reaction.

#### Supplemental label elements : Detergents - Regulation (EC) No 907/2006

: Not applicable.

#### 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.

9601 Rust-O-Thane - Activator

## SECTION 2: Hazards identification

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**

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

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

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

**United Kingdom: Great Britain**

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
polyhexamethylene diisocyanate	REACH #: 01-2119485796-17 EC: 931-274-8 CAS: 28182-81-2	≥50 - ≤75	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7	≥10 - ≤25	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 (oral, inhalation) Asp. Tox. 1, H304 Flam. Liq. 3, H226	[1] [2]
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≥10 - ≤25	Flam. Liq. 3, H226	[2]
hexamethylene-di-isocyanate	REACH #: 01-2119457571-37 EC: 212-485-8 CAS: 822-06-0 Index: 615-011-00-1	≤0,3	Acute Tox. 4, H302 Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

### 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

<u>SCL</u> (Specific Concentration Limits)	
hexamethylene-di-isocyanate	H334 = 0.5 % H317 = 0.5 %

## SECTION 3: Composition/information on ingredients

<b><u>ATE (acute toxicity estimates)</u></b> Not applicable.	Not applicable.
<b><u>Nanoform</u></b> <b>Particle characteristics</b> This product does not contains nanomaterials.	<b>Particle Size</b> Not applicable.

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.

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- 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

#### Over-exposure signs/symptoms

## SECTION 4: First aid measures

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

### 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.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- 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** : Reacts violently when water is added to this product. Containers may rupture from pressure build-up.

## 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## SECTION 6: Accidental release measures

- 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).
- 6.3 Methods and material for containment and cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

## SECTION 7: Handling and storage

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Seveso Directive - Reporting thresholds

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

### 7.3 Specific end use(s)

**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

##### United Kingdom: Great Britain

Product/ingredient name	Exposure limit values
polyhexamethylene diisocyanate	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018). Inhalation sensitiser.</b> STEL: 0,07 mg/m <sup>3</sup> , (as NCO) 15 minutes. TWA: 0,02 mg/m <sup>3</sup> , (as NCO) 8 hours.
xylene	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018). Absorbed through skin.</b> STEL: 441 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 220 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
2-methoxy-1-methylethyl acetate	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 548 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 274 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
hexamethylene-di-isocyanate	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser.</b> STEL: 0,07 mg/m <sup>3</sup> , (as NCO) 15 minutes. 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

## SECTION 8: Exposure controls/personal protection

(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
polyhexamethylene diisocyanate	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
xylene	DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	65,3 mg/m <sup>3</sup>	General population	Systemic
2-methoxy-1-methylethyl acetate	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	275 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	153,5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	54,8 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Oral	1,67 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Oral	1,67 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	33 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	33 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	54,8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	153,5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	275 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	550 mg/m <sup>3</sup>	Workers	Local
	hexamethylene-di-isocyanate	DNEL	Short term Inhalation	1 mg/m <sup>3</sup>	Workers
DNEL		Long term Inhalation	0,5 mg/m <sup>3</sup>	Workers	Local

### PNECs



## SECTION 8: Exposure controls/personal protection

Product/ingredient name	Compartment Detail	Value	Method Detail
polyhexamethylene diisocyanate	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	-
xylene	Fresh water	0,327 mg/l	Sensitivity Distribution
	Marine water	0,327 mg/l	Sensitivity Distribution
	Fresh water sediment	12,46 mg/kg	Equilibrium Partitioning
	Marine water sediment	12,46 mg/kg	Equilibrium Partitioning
	Soil	2,31 mg/kg	Equilibrium Partitioning
	Sewage Treatment Plant	6,58 mg/l	-
2-methoxy-1-methylethyl acetate	Fresh water	0,635 mg/l	-
	Fresh water sediment	3,29 mg/kg	-
	Marine water sediment	0,329 mg/kg	-
	Soil	0,29 mg/kg	-
	Sewage Treatment Plant	100 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

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### 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. Use eye protection according to EN 166. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin 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.

## SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): polyvinyl alcohol (PVA) or neoprene neoprene (0.65mm)
- The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods. Recommended: Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.
- 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. Recommended: organic vapour (Type AX) and particulate filter (EN 140) .
- 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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

- Physical state** : Liquid. [Oily liquid.]
- Colour** : Yellowish.
- Odour** : Solvent-like
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : 139°C (282,2°F) [Literature]
- Flammability (solid, gas)** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.  
Vapour may travel a considerable distance to source of ignition and flash back.  
Emits toxic fumes when heated to decomposition.
- Upper/lower flammability or explosive limits** : Lower: 1,1%  
Upper: 10,8%
- Flash point** : Closed cup: 38°C (100,4°F) [ISO EN DIN 1523 / DIN 53213-1]
- Auto-ignition temperature** : 315°C (599°F) [Literature]

## SECTION 9: Physical and chemical properties

<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>pH : Justification</b>	: Product is non-soluble (in water).
<b>Viscosity</b>	: Dynamic: 250 mPa·s
<b>Solubility(ies)</b>	: Insoluble in the following materials: cold water and hot water.
<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/ water</b>	: Not applicable.
<b>Vapour pressure</b>	: 0,53 kPa (3,9753 mm Hg) [calculated.]
<b>Evaporation rate</b>	: Not available.
<b>Relative density</b>	: 1,067 [calculated.]
<b>Density</b>	: 1,067 g/cm <sup>3</sup> [20°C (68°F)] [calculated.]
<b>Vapour density</b>	: Not available.
<b>Explosive properties</b>	: Slightly explosive in the presence of the following materials or conditions: moisture. Reacts violently when water is added to this product. Containers may rupture from pressure build-up.
<b>Oxidising properties</b>	: Not available.
<b><u>Particle characteristics</u></b>	
<b>Median particle size</b>	: Not applicable.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product may not be stable under certain conditions of storage or use. See "Possibility of Hazardous Reactions" for further information.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidising materials
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity**

## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
polyhexamethylene diisocyanate	LC50 Inhalation Dusts and mists	Rat	18500 mg/m <sup>3</sup>	1 hours
	LC50 Inhalation Dusts and mists	Rat - Female	0,39 mg/m <sup>3</sup>	4 hours
xylene	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Vapour	Rat	29091 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	4,2 g/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
2-methoxy-1-methylethyl acetate	TDLo Dermal	Rabbit	4300 mg/kg	-
	LC50 Inhalation Vapour	Rat	4345 mg/l	6 hours
hexamethylene-di-isocyanate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	0,124 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** : Harmful if inhaled.

### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
polyhexamethylene diisocyanate	N/A	N/A	N/A	N/A	1,5
xylene	4300	1100	N/A	11	N/A
2-methoxy-1-methylethyl acetate	8532	N/A	N/A	N/A	N/A
hexamethylene-di-isocyanate	500	N/A	N/A	0,05	N/A

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
polyhexamethylene diisocyanate	Skin - Oedema	Rabbit	1	4 hours	-
	Eyes - Cornea opacity	Rabbit	1	-	-
	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Eyes - Moderate irritant	Rabbit	-	-	-
hexamethylene-di-isocyanate	Skin - Erythema/Eschar	Rabbit	3	-	-
	Eyes - Redness of the conjunctivae	Rabbit	3	-	-
		Rabbit			

### Conclusion/Summary

**Skin** : Causes skin irritation.

**Eyes** : Causes serious eye irritation.

## SECTION 11: Toxicological information

**Respiratory** : May cause damage to organs through prolonged or repeated exposure if inhaled.  
May cause respiratory irritation.

### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
polyhexamethylene diisocyanate	skin	Guinea pig	Sensitising
hexamethylene-di-isocyanate	Respiratory skin	Guinea pig	Not sensitizing
	skin	Mouse	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
polyhexamethylene diisocyanate	OECD 471	Subject: Bacteria	Negative
hexamethylene-di-isocyanate	OECD 476	Subject: Mammalian-Animal	Negative
	OECD 471	Experiment: In vitro	Negative
	OECD 476	Subject: Bacteria	Negative
	OECD 474	Experiment: In vivo	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
polyhexamethylene diisocyanate	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation
hexamethylene-di-isocyanate	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 2	oral, inhalation	-

### Aspiration hazard

Product/ingredient name	Result
xylene	ASPIRATION HAZARD - Category 1

## SECTION 11: Toxicological information

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

### 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.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
polyhexamethylene diisocyanate	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-di-isocyanate	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** : May cause damage to organs through prolonged or repeated exposure. 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.

## SECTION 11: Toxicological information

**Reproductive toxicity** : No known significant effects or critical hazards.

**Endocrine disrupting properties** : Not available.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
polyhexamethylene diisocyanate	Acute EC50 >10000 mg/l	Bacteria	3 hours
	Acute EC50 >100 mg/l	Daphnia spec.	48 hours
	Acute IC50 >1000 mg/l	Algae - Scenedesmus subspicatus	72 hours
xylene	Acute LC50 >100 mg/l	Fish	96 hours
	Acute EC50 1,3 mg/l Fresh water	Algae	72 hours
	Acute LC50 1 mg/l Fresh water	Daphnia spec.	24 hours
	Acute NOEC 0,44 mg/l	Algae	72 hours
	Chronic NOEC 0,96 mg/l Fresh water	Daphnia spec.	21 days
2-methoxy-1-methylethyl acetate	Acute EC50 408 to 500 mg/l	Daphnia spec.	48 hours
	Acute LC50 161 mg/l	Fish	96 hours
hexamethylene-di-isocyanate	Acute LC50 100 to 180 mg/l	Fish	96 hours
	Acute EC50 >77,4 mg/l	Algae	72 hours
	Acute EC50 842 mg/l	Bacteria	3 hours

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

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
polyhexamethylene diisocyanate	OECD 301C	2 % - Not readily - 28 days	-	-
xylene	-	90 % - Readily - 5 days	-	-
	OECD 301F	87,8 % - 28 days	-	-
2-methoxy-1-methylethyl acetate	OECD 302B	100 % - Inherent - 8 days	-	-
	OECD 301F	42 % - 10 days	-	-
hexamethylene-di-isocyanate	EU 301F Ready	42 % - 28 days	-	-
	Biodegradability - Manometric Respirometry Test			

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
polyhexamethylene diisocyanate	Fresh water 0,32 days, 23°C	50%; 0.49 day(s)	Not readily
xylene	-	-	Readily
2-methoxy-1-methylethyl acetate	-	-	Inherent
hexamethylene-di-isocyanate	-	-	Not readily

### 12.3 Bioaccumulative potential

## SECTION 12: Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
polyhexamethylene diisocyanate	5,54	367,7	low
xylene	3,12	8.1 to 25.9	low
2-methoxy-1-methylethyl acetate	1,2	-	low
hexamethylene-di-isocyanate	0,02	57,63	low

### 12.4 Mobility in soil

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

**Mobility** : This product is not likely to volatilise rapidly into the air because of its low vapour pressure.

### 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 Endocrine disrupting properties** : No known significant effects or critical hazards.

**12.7 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.





#### European waste catalogue (EWC)

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

**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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt 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 or ID number</b>	UN1263	UN1263	UN1263	UN1263
<b>14.2 UN proper shipping name</b>	Paint	Paint	Paint	Paint
<b>14.3 Transport hazard class(es)</b>	3 	3 	3 	3 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.
<b><u>Additional information</u></b>	<b>Limited quantity</b> ≤ 5L <b>Tunnel code</b> (D/E)		<b>Emergency schedules</b> F-E ; S-E <b>Remarks</b> : ≤ 5L: Limited Quantity - IMDG 3.4	<b>Quantity limitation</b> Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.

**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.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## 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** : Not applicable.

**Other EU regulations**

**VOC** :

## SECTION 15: Regulatory information

**VOC for Ready-for-Use Mixture** : 2004/42/EC - IIA/j: 500g/l (2010). <= 499g/l VOC.

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

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

Not listed.

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

Not listed.

### Persistent Organic Pollutants (850/2004/EC)

Not listed.

### Seveso Directive

This product is controlled under the Seveso Directive.

#### Danger criteria

**Category**

P5c

### United Kingdom: Great Britain

**References** : EH40/2005 Workplace exposure limits  
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878  
REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC

### International regulations

#### Stockholm Convention on Persistent Organic Pollutants

List name	Ingredient name	Status
Not listed.		

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

Not listed.

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

List name	Ingredient name	Status
Not listed.		

**CN code** : 3909 50 90 90

### Inventory list

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : All components are listed or exempted.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (CSCL)**: All components are listed or exempted.  
**Japan inventory (ISHL)**: Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.

## SECTION 15: Regulatory information

<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: All components are listed or exempted.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

**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  
 N/A = Not available  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Flam. Liq. 3, H226	Expert judgment
Acute Tox. 4, H332	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Skin Sens. 1, H317	Expert judgment
STOT SE 3, H335	Expert judgment
STOT RE 2, H373	Expert judgment

### Full text of abbreviated H statements

#### United Kingdom: Great Britain

<b>Full text of abbreviated H statements</b> :	H226	Flammable liquid and vapour.
	H302	Harmful if swallowed.
	H304	May be fatal if swallowed and enters airways.
	H312	Harmful in contact with skin.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H319	Causes serious eye irritation.
	H330	Fatal if inhaled.
	H332	Harmful if inhaled.
	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	H335	May cause respiratory irritation.
	H373	May cause damage to organs through prolonged or repeated exposure.

## SECTION 16: Other information

[Full text of classifications \[CLP/GHS\]](#)

Acute Tox. 1	ACUTE TOXICITY - Category 1
Acute Tox. 4	ACUTE TOXICITY - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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[Notice to reader](#)

**IMPORTANT NOTE:** 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 information contained in this data sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and believed to be correct as of the date on which it is prepared. It is the user's responsibility to verify that this data sheet is current prior to using the product to which it relates. Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to use. Where those purposes are other than as specifically recommended in this safety data sheet, then the user uses the product at their own risk.

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