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 : 3GY1-H0R8-Q00Q-FQA1

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

Supplier

Telephone number United Kingdom: Great Britain : +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 UK CLP/GHS

Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Sens. 1, H317
STOT SE 3, H335
STOT SE 3, H336
Aquatic Chronic 3, H412

SECTION 2: Hazards identification

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 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 : H226 - Flammable liquid and vapour.
H317 - May cause an allergic skin reaction.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Not applicable.

Prevention : P280 - Wear protective gloves.
P284 - In case of inadequate ventilation wear respiratory 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.

Response : P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 : Hexamethylene diisocyanate, oligomers
2-methoxy-1-methylethyl acetate
n-butyl acetate
hexamethylene-di-isocyanate

Supplemental label elements : EUH204 - 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.

Tactile warning of danger : Not applicable.

2.3 Other hazards

SECTION 2: Hazards identification

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

Product/ingredient name	Identifiers	%	Classification	Type
Hexamethylene diisocyanate, oligomers	REACH #: 01-2119485796-17 CAS: 28182-81-2	≥75 - ≤90	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	[1]
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 STOT SE 3, H336	[1]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≤5	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
hydrocarbons, aromatic, C9	EC: 265-199-0 CAS: 64742-95-6 Index: 649-356-00-4	≤5	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
hexamethylene-di-isocyanate	REACH #: 01-2119457571-37 EC: 212-485-8 CAS: 822-06-0 Index: 615-011-00-1	<0,1	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 **See Section 16 for the full text of the H statements declared above.**	[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

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 if irritation occurs.

SECTION 4: First aid measures

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. If necessary, call a poison center or physician. 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

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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_2, 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. 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 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 British standard BS 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.

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. 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.

SECTION 6: Accidental release measures

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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. 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.

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. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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 ingest. Avoid breathing vapour or mist. Avoid release to the environment. 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

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

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
n-butyl acetate	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 966 mg/m³. STEL 15 minutes: 200 ppm. TWA 8 hours: 724 mg/m³. TWA 8 hours: 150 ppm.
hexamethylene-di-isocyanate	**EH40/2005 WELs (United Kingdom (UK), 1/2020) [isocyanates, all, except methyl isocyanate]** Inhalation sensitiser. STEL 15 minutes: 0,07 mg/m³ (as -NCO). TWA 8 hours: 0,02 mg/m³ (as -NCO).

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS 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 diisocyanate, oligomers	DNEL	Short term Inhalation	1 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,5 mg/m³	Workers	Local
2-methoxy-1-methylethyl acetate	DNEL	Long term Inhalation	275 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	153,5 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	54,8 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Oral	1,67 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Oral	1,67 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	33 mg/m³	General population	Local
	DNEL	Long term Inhalation	33 mg/m³	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/m³	Workers	Systemic
	DNEL	Short term Inhalation	550 mg/m³	Workers	Local
	DNEL	Long term Dermal	796 mg/kg	Workers	Systemic
	DNEL	Long term Dermal	320 mg/kg	General population	Systemic
	DNEL	Long term Oral	36 mg/kg	General population	Systemic
n-butyl acetate	DNEL	Long term Dermal	7 mg/kg	Workers	Systemic

SECTION 8: Exposure controls/personal protection

			bw/day		
	DNEL	Long term Oral	3,4 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	960 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	960 mg/m³	Workers	Local
	DNEL	Long term Inhalation	480 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	480 mg/m³	Workers	Local
	DNEL	Short term Inhalation	859,7 mg/m³	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	859,7 mg/m³	General population [Consumers]	Local
	DNEL	Long term Inhalation	102,34 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	102,34 mg/m³	General population [Consumers]	Local
	DNEL	Long term Dermal	3,4 mg/kg bw/day	General population [Consumers]	Systemic
hydrocarbons, aromatic, C9	DNEL	Long term Dermal	25 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	150 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	11 mg/kg	General population	Systemic
	DNEL	Long term Inhalation	32 mg/m³	General population	Systemic
	DNEL	Long term Oral	11 mg/kg	General population	Systemic
hexamethylene-di-isocyanate	DNEL	Short term Inhalation	1 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,5 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,35 mg/m³	Workers	Local
	DNEL	Short term Inhalation	0,7 mg/m³	Workers	Local

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Hexamethylene diisocyanate, oligomers	Fresh water	0,199 mg/l	-
	Marine	0,0199 mg/l	-
	Fresh water sediment	44551 mg/kg dwt	-
	Marine water sediment	4455 mg/kg dwt	-
	Soil	8884 mg/kg dwt	-
	Sewage Treatment Plant	100 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	-
	Marine water	0,0635 mg/l	-
n-butyl acetate	Fresh water	0,18 mg/l	-
	Marine	0,018 mg/l	-

SECTION 8: Exposure controls/personal protection

	Fresh water sediment	0,981 mg/kg	-
	Marine water sediment	0,0981 mg/kg	-
	Soil	0,0903 mg/kg	-
	Sewage Treatment Plant	35,6 mg/l	-
hexamethylene-di-isocyanate	Fresh water	0,127 mg/l	-
	Marine	0,0127 mg/l	-
	Sediment	266700 mg/kg dwt	-
	Soil	53182 mg/kg dwt	-
	Sewage Treatment Plant	38,28 mg/l	-
	Fresh water	>0,05 mg/l	-
	Fresh water sediment	>1,33 mg/kg	-
	Marine water	>0,005 mg/l	-
	Marine water sediment	>0,133 mg/kg	-
	Sewage Treatment Plant	55,6 mg/l	-
	Soil	>0,066 mg/kg	-

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: safety glasses with side-shields.

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.

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)

SECTION 8: Exposure controls/personal protection

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 British Standard BS 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 : Yellow.

Odour : Solvent-like

Odour threshold : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range : 126°C (258,8°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.

Lower and upper explosion limit : Lower: 0,6%
Upper: 7,5%

Flash point : Closed cup: 45°C (113°F) [Literature]

Auto-ignition temperature : 333°C (631,4°F) [Literature]

Decomposition temperature : Not available.

pH : Not applicable.

pH : Justification : Product is non-soluble (in water).

Viscosity : Dynamic (room temperature): 250 mPa·s [ISO EN BS DIN 3219]
Kinematic (room temperature): 227 mm^2/s [calculated.]
Kinematic (40°C): >20,5 mm^2/s [calculated.]

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

SECTION 9: Physical and chemical properties

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure : 0,53 kPa (3,9753 mm Hg) [calculated.]

Evaporation rate : Not available.

Relative density : Not available.

Density : 1,08 to 1,1 g/cm³ [20°C (68°F)] [DIN 53217]

Vapour density : Not available.

Explosive properties : 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.

Oxidising properties : Not available.

Particle characteristics

Median particle size : Not applicable.

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 : The product may not be stable under certain conditions of storage or use. See "Possibility of Hazardous Reactions" for further information.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : 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.

10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials

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 diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m³	1 hours
	LC50 Inhalation Dusts and mists	Rat - Female	390 mg/m³	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	NOEL Inhalation Dusts and mists	Rat	8100 mg/m³	4 hours
n-butyl acetate	LC50 Inhalation Dusts and mists	Rat - Male, Female	23,4 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	>21 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	9700 mg/m³	4 hours

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	LD50 Oral	Rat	14000 mg/kg	-
hydrocarbons, aromatic, C9	LD50 Oral	Mouse	8400 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
hexamethylene-di-isocyanate	LC50 Inhalation Dusts and mists	Rat	0,124 mg/m³	4 hours
	LCLo Inhalation Dusts and mists	Rat	60 mg/m³	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)
9601 Rust-O-Thane - Activator	N/A	N/A	N/A	N/A	2,0
Hexamethylene diisocyanate, oligomers	N/A	N/A	N/A	N/A	1,5
n-butyl acetate	N/A	N/A	N/A	N/A	23,4
hydrocarbons, aromatic, C9	8400	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
Hexamethylene diisocyanate, oligomers	Eyes - Cornea opacity	Rabbit	1	-	-
	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Oedema	Rabbit	1	4 hours	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
hydrocarbons, aromatic, C9	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
hexamethylene-di-isocyanate	Eyes - Redness of the conjunctivae	Rabbit	3	-	-
	Skin - Erythema/Eschar	Rabbit	3	-	-

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

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

Respiratory : May cause respiratory irritation. May cause drowsiness or dizziness.

Respiratory or skin sensitization

Product/ingredient name	Route of exposure	Species	Result
Hexamethylene diisocyanate, oligomers	Respiratory	Guinea pig	Not sensitizing
	skin	Guinea pig	Sensitising
	skin	Mouse	Sensitising
hexamethylene-di-isocyanate	Respiratory	Guinea pig	Sensitising
	skin	Guinea pig	Sensitising

Skin : May cause an allergic skin reaction.

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

Mutagenicity

SECTION 11: Toxicological information

Product/ingredient name	Test	Experiment	Result
Hexamethylene diisocyanate, oligomers	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 406 Skin sensitisation	Subject: Mammalian-Animal	Positive
	OECD 405 Acute eye irritation / corrosion	Subject: Mammalian-Animal	Negative
hydrocarbons, aromatic, C9	OECD 471	Subject: Bacteria	Negative
hexamethylene-di-isocyanate	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

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

Carcinogenicity

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

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
hydrocarbons, aromatic, C9	-	-	Negative	Mammal - species unspecified	Route of exposure unreported	-

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 diisocyanate, oligomers	Category 3	-	Respiratory tract irritation
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
n-butyl acetate	Category 3	-	Narcotic effects
hydrocarbons, aromatic, C9	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
hexamethylene-di-isocyanate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
hydrocarbons, aromatic, C9	ASPIRATION HAZARD - Category 1

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

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : May cause an allergic skin reaction.

SECTION 11: Toxicological information

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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
Hexamethylene diisocyanate, oligomers	Sub-chronic LC50 Inhalation Dusts and mists	Rat	14,7 mg/m³	6 hours; 5 days per week Intermittent
	Sub-acute LC50 Inhalation Dusts and mists	Rat	89,9 mg/m³	6 hours; 5 days per week Intermittent
	Sub-acute LCLo Inhalation Dusts and mists	Rat	4,3 mg/m³	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 : 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.

Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 3828 mg/l	Bacteria	3 hours
	Acute EC50 >100 mg/l	Daphnia spec.	48 hours
	Acute IC50 >1000 mg/l	Algae - *Scenedesmus subspicatus*	72 hours
	Acute LC50 >100 mg/l	Fish - Zebra barbel	96 hours
2-methoxy-1-methylethyl acetate	Acute LC50 130 mg/l Fresh water	Fish - Rainbow trout (oncorhynchus mykiss)	96 hours
	Acute NOEC >1000 mg/l	Algae - Algae	96 hours
	Chronic LC10 100 mg/l	Daphnia spec. - Daphnia spec.	21 days
	Chronic NOEC 47,5 mg/l Fresh water	Fish	14 days
n-butyl acetate	Acute EC50 397 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 44 mg/l Fresh water	Daphnia spec. - Daphnia spec.	48 hours
	Acute LC50 18 mg/l Fresh water	Fish - Fathead minnow - *Pimephales promelas*	96 hours
	Chronic NOEC 23 mg/l Fresh water	Daphnia spec. - Daphnia spec.	21 days
hexamethylene-di-isocyanate	Acute EC50 >77,4 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 842 mg/l	Bacteria	3 hours

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

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hexamethylene diisocyanate, oligomers	OECD 301C	1 % - Not readily - 28 days	-	-
2-methoxy-1-methylethyl acetate	OECD 302B	100 % - Inherent - 8 days	-	-
n-butyl acetate	-	90 % - Readily - 28 days	-	-
	OECD 301D	83 % - Readily - 28 days	-	-
	-	80 % - 5 days	-	-
hexamethylene-di-isocyanate	OECD 301F	42 % - 10 days	-	-
	EU 301F Ready Biodegradability - Manometric Respirometry Test	42 % - 28 days	-	-

Conclusion/Summary : This product has not been tested for biodegradation. Based on available data, the classification criteria are not met.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	Fresh water 0,32 days, 23°C	50%; 0.43 day(s)	Not readily
2-methoxy-1-methylethyl acetate	-	-	Readily
n-butyl acetate	-	-	Readily
hydrocarbons, aromatic, C9	-	-	Readily
hexamethylene-di-isocyanate	-	-	Not readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Hexamethylene diisocyanate, oligomers	5,54	367,7	Low
2-methoxy-1-methylethyl acetate	1,2	-	Low
n-butyl acetate	2,3	10	Low
hydrocarbons, aromatic, C9	3.7 to 4.5	-	High
hexamethylene-di-isocyanate	0,02	57,63	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : 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 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.

Waste catalogue

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
14.1 UN number or ID number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	Paint	Paint	Paint	Paint

SECTION 14: Transport information

14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	**Hazard identification number** 30 **Limited quantity** 5L **Special provisions** 163, 367, 650 **Tunnel code** (D/E)	**Special provisions** 163, 367, 650 **Remarks** : ≤ 5L: Limited Quantity	**Emergency schedules** F-E, S-E **Special provisions** 163, 223, 367, 955 **Remarks** : ≤ 5L: Limited Quantity - IMDG 3.4	**Quantity limitation** 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. **Special provisions** A3, A72, A192

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed above the relevant limit.

Substances of very high concern

None of the components are listed above the relevant limit.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
9601 Rust-O-Thane - Activator	≥90	3

Labelling : Not applicable.

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/j: 500g/l (2010). <= 499g/l VOC.

SECTION 15: Regulatory information

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

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

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

EU regulations

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

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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 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.

Eurasian Economic Union : **Russian Federation inventory**: Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : All components are listed or exempted.

SECTION 15: Regulatory information

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : All components are listed or exempted.

United States : Not determined.

Viet Nam : 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
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = GB 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

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

SECTION 16: Other information

Acute Tox. 1	ACUTE TOXICITY - Category 1
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
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 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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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.