



Polyurethane Odourless Waterproofing Coating - Multi Substrate Primer: Base

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

Print Date: 01.05.2020

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Version: 1.01

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

Product description: Primer

Product Type: Liquid

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

Identified uses
Industrial uses Professional uses

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

Details of the supplier of the safety data sheet

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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]

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SECTION 2: Hazards identification

Flam. Liq. 3, H226
 Skin Irrit. 2, H315
 Eye Irrit. 2, H319
 Resp. Sens. 1, H334
 Skin Sens. 1, H317
 Carc. 2, H351
 STOT SE 3, H335
 STOT RE 2, H373
 Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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

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

2.2 Label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Flammable liquid and vapour.
 Causes serious eye irritation.
 Causes skin irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 Suspected of causing cancer.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

General

: Not applicable.

Prevention

: P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
 P261 - Avoid breathing vapour or spray.
 P271 - Use only outdoors or in a well-ventilated area.
 P280 - Wear protective gloves and eye protection:
 - nitrile rubber or neoprene gloves and safety glasses with side-shields.
 P285 - In case of inadequate ventilation wear respiratory protection.

Response

: P304 - IF INHALED:
 P341 - If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P342 - If experiencing respiratory symptoms:
 P311 - Call a doctor.

Storage

: P403 - Store in a well-ventilated place.
 P235 - Keep cool.
 P405 - Store locked up.

Disposal

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

Hazardous ingredients

: hydrocarbons, aromatic, C9
 Isocyanic acid, polymethylenepolyphenylene ester
 4,4'-methylenediphenyl diisocyanate
 tosyl isocyanate

Supplemental label elements

: Contains isocyanates. May produce an allergic reaction.

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SECTION 2: Hazards identification

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

Special packaging requirements

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

Tactile warning of danger : Not applicable.

2.3 Other hazards

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	
			Regulation (EC) No. 1272/2008 [CLP]	Type
hydrocarbons, aromatic, C9	REACH #: 01-2119455851-35 EC: 918-668-5 Index: 649-356-00-4	≥10 - ≤25	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
Isocyanic acid, polymethylenepolyphenylene ester	CAS: 9016-87-9	≤10	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 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	≤5	Flam. Liq. 3, H226	[2]
4,4'-methylenediphenyl diisocyanate	REACH #: 01-2119457014-47 EC: 202-966-0 CAS: 101-68-8 Index: 615-005-00-9	≤5	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373	[1][2]
tosyl isocyanate	EC: 223-810-8 CAS: 4083-64-1 Index: 615-012-00-7	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335 EUH014 See Section 16 for the full text of the H statements declared above.	[1]

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SECTION 3: Composition/information on ingredients

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

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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

SECTION 4: First aid measures**4.1 Description of first aid measures**

- | | |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General | : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice. |
| Eye contact | : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice. |
| Inhalation | : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. |
| Skin contact | : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners. |
| Ingestion | : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting. |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

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

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

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

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

Contains Isocyanic acid, polymethylenepolyphenylene ester, 4,4'-methylenediphenyl diisocyanate, tosyl isocyanate. May produce an allergic reaction.

Over-exposure signs/symptoms

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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
wheezing and breathing difficulties
asthma
- 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.

See toxicological information (Section 11)

SECTION 5: Firefighting measures**5.1 Extinguishing media**

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

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/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** : No unusual hazard if involved in a fire.

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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.
- 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.

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

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

- 7.1 Precautions for safe handling** : Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Care should be taken when re-opening partly-used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.

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SECTION 7: Handling and storage

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Put on appropriate personal protective equipment (see Section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one.

Comply with the health and safety at work laws.

Do not allow to enter drains or watercourses.

Information on fire and explosion protection

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

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage

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

Additional information on storage conditions

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

Keep container tightly closed.

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

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000

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

Product/ingredient name	Exposure limit values
Isocyanic acid, polymethylenepolyphenylene ester	EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser. Notes: as NCO STEL: 0,07 mg/m ³ , (as NCO), 0 times per shift, 15 minutes. TWA: 0,02 mg/m ³ , (as NCO), 0 times per shift, 8 hours.
2-methoxy-1-methylethyl acetate	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 548 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 274 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.

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SECTION 8: Exposure controls/personal protection

4,4'-methylenediphenyl diisocyanate	EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser. STEL: 0,07 mg/m ³ , (as NCO) 15 minutes. TWA: 0,02 mg/m ³ , (as NCO) 8 hours.
-------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
2-methoxy-1-methylethyl acetate	DNEL	Long term Inhalation	275 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	153,5 mg/m ³	Workers	Systemic
4,4'-methylenediphenyl diisocyanate	DNEL	Long term Dermal	54,8 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	1,67 mg/m ³	Consumers	Systemic
	DNEL	Dermal	28,7 mg/cm ²	-	Local
	DNEL	Inhalation	0,1 mg/m ³	-	Local
	DNEL	Long term Inhalation	0,05 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	0,05 mg/m ³	Workers	Local

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
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	-
4,4'-methylenediphenyl diisocyanate	Fresh water	>1 mg/l	-
	Marine water	>0,1 mg/l	-
	Soil	>1 mg/kg dwt	-
	Sewage Treatment Plant	>1 mg/l	-

8.2 Exposure controls

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

Individual protection measures

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SECTION 8: Exposure controls/personal protection

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

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

Skin protection**Hand protection**

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

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

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

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

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

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

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

Gloves : For prolonged or repeated handling, use the following type of gloves:
Recommended: > 8 hours (breakthrough time): nitrile rubber (0.5mm) or neoprene (0.65mm) gloves.

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

EN 374-3 : 2003

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

Body protection : 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. (EN 1149-1)

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 A) 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.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	: Liquid.
Colour	: Not available.
Odour	: Not available.
Odour threshold	: Not available.
pH	: Not applicable.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: 42°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: 1,36 to 1,4
Solubility(ies)	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (room temperature): 800 mPa·s Kinematic (40°C): >0,205 cm ² /s
Explosive properties	: Not available.
Oxidising properties	: Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: In a fire, hazardous decomposition products may be produced.
10.5 Incompatible materials	: Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO ₂ and smoke can be generated.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
hydrocarbons, aromatic, C9	LD50 Oral	Mouse	8400 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	310 mg/m ³	4 hours
Isocyanic acid, polymethylenepolyphenylene ester	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	49 g/kg	-
	LD50 Oral	Rat - Female	>15000 mg/kg	-
	LC50 Inhalation Vapour	Rat	Single dose 4345 mg/l	6 hours
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
4,4'-methylenediphenyl diisocyanate	LD50 Oral	Rat	9200 mg/kg	-
	LD50 Oral	Rat	2234 mg/kg	-
	LD50 Oral	Rat	2234 mg/kg	-

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

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
hydrocarbons, aromatic, C9	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
Isocyanic acid, polymethylenepolyphenylene ester	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-
4,4'-methylenediphenyl diisocyanate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
tosyl isocyanate	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-

Conclusion/Summary

Skin

: Causes skin irritation.

Eyes

: Causes serious eye irritation.

Respiratory

: May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure if inhaled.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Isocyanic acid, polymethylenepolyphenylene ester	skin	Guinea pig	Not sensitizing
	skin	Mouse	Sensitising
4,4'-methylenediphenyl diisocyanate	Respiratory	Rat	Sensitising
	skin	Guinea pig	Not sensitizing
	skin	Mouse	Sensitising

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SECTION 11: Toxicological information

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
hydrocarbons, aromatic, C9 Isocyanic acid, polymethylenepolyphenylene ester	OECD 471	Subject: Bacteria Experiment: In vitro Subject: Bacteria	Negative
	OECD 471		Negative
4,4'-methylenediphenyl diisocyanate	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative
	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

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

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Isocyanic acid, polymethylenepolyphenylene ester	Positive - Inhalation - TC	Rat	6 mg/m ³	2 years; 6 hours per day
4,4'-methylenediphenyl diisocyanate	Positive - Inhalation - TC	Rat	6 mg/m ³	2 years; 6 hours per day

Conclusion/Summary : Suspected of causing cancer.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
hydrocarbons, aromatic, C9	-	-	Negative	Mammal - species unspecified	Route of exposure unreported	-
Isocyanic acid, polymethylenepolyphenylene ester	Negative	-	Negative	Rat - Female	Inhalation: 4 mg/m ³	10 days; 6 hours per day
4,4'-methylenediphenyl diisocyanate	Negative	Negative	Negative	Rat - Female	Inhalation: 4 mg/m ³	10 days; 6 hours per day

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

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Isocyanic acid, polymethylenepolyphenylene ester	Negative - Inhalation	Rat - Female	12 mg/m ³	20 days; 6 hours per day
4,4'-methylenediphenyl diisocyanate	Negative - Inhalation	Rat - Female	12 mg/m ³	20 days; 6 hours per day

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

Specific target organ toxicity (single exposure)

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SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
hydrocarbons, aromatic, C9	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Isocyanic acid, polymethylenepolyphenylene ester	Category 3	Not applicable.	Respiratory tract irritation
4,4'-methylenediphenyl diisocyanate	Category 3	Not applicable.	Respiratory tract irritation
tosyl isocyanate	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Isocyanic acid, polymethylenepolyphenylene ester	Category 2	Not determined	Not determined
4,4'-methylenediphenyl diisocyanate	Category 2	Not determined	Not determined

Aspiration hazard

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

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
Isocyanic acid, polymethylenepolyphenylene ester	Chronic NOAEL Inhalation Dusts and mists	Rat	0,2 mg/m ³	2 years; 5 days per week
	Chronic LOAEL Inhalation Dusts and mists	Rat	1 mg/m ³	2 years; 5 days per week
4,4'-methylenediphenyl diisocyanate	Chronic NOAEL Inhalation Dusts and mists	Rat	0,2 mg/m ³	2 years; 5 days per week
	Chronic LOAEL Inhalation Dusts and mists	Rat	1 mg/m ³	2 years; 5 days per week

Conclusion/Summary

General : Based on available data, the classification criteria are not met.
: 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 : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

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SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.

Do not allow to enter drains or watercourses.

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

Product/ingredient name	Result	Species	Exposure
Isocyanic acid, polymethylenepolyphenylene ester	Acute EC50 >1640 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 >1000 mg/l Acute LC50 >1000 mg/l Chronic NOEC >10 mg/l	Daphnia spec. Fish Daphnia spec.	48 hours 96 hours 21 days
2-methoxy-1-methylethyl acetate	Acute EC50 408 to 500 mg/l	Daphnia spec.	48 hours
4,4'-methylenediphenyl diisocyanate	Acute LC50 161 mg/l Acute LC50 100 to 180 mg/l Acute EC50 >1640 mg/l	Fish Fish Algae - Scenedesmus subspicatus	96 hours 96 hours 72 hours
	Acute EC50 >100 mg/l Acute LC50 >1000 mg/l Chronic NOEC >10 mg/l	Daphnia spec. Fish Daphnia spec.	48 hours 96 hours 21 days
tosyl isocyanate	Acute LC50 597 mg/l	Fish	96 hours

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

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Isocyanic acid, polymethylenepolyphenylene ester	OECD 301D	0 % - Not readily - 28 days	-	-
4,4'-methylenediphenyl diisocyanate	OECD 301D	0 % - Not readily - 28 days	-	-

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
hydrocarbons, aromatic, C9	-	-	Readily
Isocyanic acid, polymethylenepolyphenylene ester	Fresh water 0,8 days, 25°C	50%; 0.92 day(s)	Not readily
2-methoxy-1-methylethyl acetate	-	-	Readily
4,4'-methylenediphenyl diisocyanate	Fresh water 0,8 days, 25°C	50%; 0.92 day(s)	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
hydrocarbons, aromatic, C9	3.7 to 4.5	-	high
Isocyanic acid, polymethylenepolyphenylene ester	-	<14	low
2-methoxy-1-methylethyl acetate	1,2	-	low
4,4'-methylenediphenyl diisocyanate	4,51	200	low

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SECTION 12: Ecological information

12.4 Mobility in soil

Soil/water partition coefficient (Koc) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal Considerations

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.

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

European waste catalogue (EWC)

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

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

Packaging

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

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. 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.

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SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	UN1263	UN1263
14.2 UN proper shipping name	-	-	Paint.	Paint.
14.3 Transport hazard class(es)	-	-	3	3 
14.4 Packing group	-	-	III	III
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	<p>Remarks Exempted according to 2.2.3.1.5 (Viscous substance exemption)</p> <p>This class 3 material is not subject to regulation in packagings up to 450 L.</p>		<p>Emergency schedules (EmS): F-E + S-E</p> <p>Viscous substance exemption This class 3 material can be considered non hazardous in packagings up to 30 L. Exempted according to 2.3.2.5 (Viscous substance exemption)</p>	<p>Passenger and Cargo Aircraft Quantity limitation: 60 L Packaging instructions: 355</p> <p>Cargo Aircraft Only Quantity limitation: 220 L Packaging instructions: 366</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: 10 L Packaging instructions: Y 344</p>

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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

Other EU regulations

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SECTION 15: Regulatory information

- 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). <= 270g/l VOC.
- Europe inventory : All components are listed or exempted.
- Industrial emissions (integrated pollution prevention and control) - Air : Listed
- Industrial emissions (integrated pollution prevention and control) - Water : Listed

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Isocyanic acid, polymethylenepolyphenylene ester	Carc. 2, H351	-	-	-
4,4'-methylenediphenyl diisocyanate	Carc. 2, H351	-	-	-

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b

National regulations

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

References

- : EH40/2005 Workplace exposure limits
- Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

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SECTION 15: Regulatory information

CN code : 3208 90 91

UFI Code : 33VU-M5SS-C99S-TRAM

International lists

National inventory

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Japan	: Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Turkey	: Not determined.
United States	: Not determined.

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

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

Abbreviations and acronyms

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

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

Classification	Justification
Flam. Liq. 3, H226	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Resp. Sens. 1, H334	Expert judgment
Skin Sens. 1, H317	Expert judgment
Carc. 2, H351	Expert judgment
STOT SE 3, H335	Expert judgment
STOT RE 2, H373	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of H-phrases referred to in sections 2 and 3

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SECTION 16: Other information

Full text of abbreviated H statements	: H226 H304 H315 H317 H319 H332 H334 H335 H336 H351 H373 H411 H412	Flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
Full text of classifications [CLP/GHS]	: Acute Tox. 4, H332 Aquatic Chronic 2, H411 Aquatic Chronic 3, H412 Asp. Tox. 1, H304 Carc. 2, H351 EUH014 EUH066 Eye Irrit. 2, H319 Flam. Liq. 3, H226 Resp. Sens. 1, H334 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT RE 2, H373 STOT SE 3, H335 STOT SE 3, H336	ACUTE TOXICITY (inhalation) - Category 4 LONG-TERM AQUATIC HAZARD - Category 2 LONG-TERM AQUATIC HAZARD - Category 3 ASPIRATION HAZARD - Category 1 CARCINOGENICITY - Category 2 Reacts violently with water. Repeated exposure may cause skin dryness or cracking. SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 3 RESPIRATORY SENSITISATION - Category 1 SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITISATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

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Notice to reader

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