



SAFETY DATA SHEET

Prefere 6651

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

1.1 Product identifier

Product name : Prefere 6651

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

Use of the substance/
mixture : Industrial/Professional Use: Hardener. Woodworking industry.

1.3 Details of the supplier of the safety data sheet

Supplier : Dynea AS
P.O.Box 160, N-2001 Lillestrøm
Norway
Tel. +47 63897100
Fax. +47 63897610

e-mail address of person
responsible for this SDS : sds@dynea.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Not available.

Supplier

Telephone number : +47 63897100

Hours of operation : 24 hours

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]

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

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

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

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

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :



Signal word : Danger

Hazard statements : H332 - Harmful if inhaled.
 H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H317 - May cause an allergic skin reaction.
 H351 - Suspected of causing cancer.
 H335 - May cause respiratory irritation.
 H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements : P201 - Obtain special instructions before use.
 P280 - Wear protective gloves. Wear eye or face protection.
 P260 - Do not breathe gas, fumes or vapour.
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.
 P405 - Store locked up.
 P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Isocyanic acid, polymethylenepolyphenylene ester
 Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl)

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

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

Special packaging requirements

Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container. Air contaminants may be formed during use of the product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Isocyanic acid, polymethylenepolyphenylene ester	REACH #: Polymer CAS: 9016-87-9	≥75 - <90	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 (inhalation)	[1] [2]

SECTION 3: Composition/information on ingredients

Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl)	CAS: 70644-56-3	≥5 - <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	[1]
			See Section 16 for the full text of the H statements declared above.	

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

Type

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

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Move exposed person to fresh air. Get medical attention. If necessary, call a poison center or 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. In the event of any complaints or symptoms, avoid further exposure.
- 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation occurs.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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 adverse health effects persist or are severe.
- General** : Move the victim to a safe area as soon as possible. If unconscious, place in recovery position and seek medical advice. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Allow the victim to rest in a well-ventilated area.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

SECTION 4: First aid measures

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

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

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 an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container. In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Absorb with liquid-binding material (sand, diatomite, universal binders etc.) or use a spill kit. Neutralise with decontaminant. See section 16 for decontaminant composition. Material and/or container must be disposed of as hazardous waste.

Large spill : Approach the release from upwind. Stop leak if without risk. Move containers from spill area. 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. Contaminated absorbent material may pose the same hazard as the spilt product. Cover with wet earth, sand or other non-combustible material. Leave to react for 30 minutes. Use a shovel to transfer the material to a convenient waste disposal container. Flush residual spill area with large quantity of water.

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 : See Section 8 for information on appropriate personal protective equipment. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

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

Store in accordance with local regulations. Store away from incompatible materials (see Section 10). Store locked up. Keep away from food, drink and animal feeding stuffs. Keep away from water. 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. The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.

7.3 Specific end use(s)

Recommendations : Not available.

SECTION 7: Handling and storage

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.

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

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

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl)	DNEL	Short term Dermal	50 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	0,1 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	28,7 mg/cm ²	Workers	Local
	DNEL	Short term Inhalation	0,1 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,05 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	0,05 mg/m ³	Workers	Local
	DNEL	Short term Dermal	25 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	0,05 mg/m ³	Consumers	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Dermal	17,2 mg/cm ²	Consumers	Local
	DNEL	Short term	0,05 mg/m ³	Consumers	Local

SECTION 8: Exposure controls/personal protection

	DNEL	Inhalation Long term	0,025 ng/ m ³	Consumers	Systemic
	DNEL	Inhalation Long term	0,025 mg/ m ³	Consumers	Local

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega- hydroxypoly(oxy-1,2-ethanediy)	-	Fresh water	1 mg/l	Assessment Factors
	-	Marine water	0,1 mg/l	Assessment Factors
	-	Soil	1 mg/kg	Assessment Factors
	-	Sewage Treatment Plant	1 mg/l	Assessment Factors

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.

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. Immediately remove any contaminated clothing, shoes or socks. 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 : Use eye protection according to EN 166, designed to protect against liquid splashes. Recommended: chemical splash goggles.

Hand protection : Wear suitable gloves tested to EN374. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.

Recommended : Protective Index 6 / Breakthrough time >480 minutes: nitrile rubber 0.4 mm thickness or butyl rubber 0.7 mm thickness

Other skin protection : Wear work clothing with long sleeves. Cotton or cotton/synthetic overalls or coveralls are normally suitable. 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 : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Long Term Exposure / high concentrations : Self-contained respirator (DIN EN 133) or full face mask (DIN EN 136)

Short term exposure / Low exposure : Half-face mask (DIN EN 140)

Recommended: Type A (Brown): organic gases and vapours with a boiling point higher than 65°C.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Liquid.
Colour	: Brown.
Odour	: Characteristic.
Odour threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: >300°C
Flash point	: Closed cup: 222°C Open cup: 222°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: 1,24
Density (liquid)	: 1,24 g/cm ³ [25°C]
Solubility	: Not soluble in water
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic: 250 to 400 mPa·s [25 °C]
Explosive properties	: Not available.
Oxidising properties	: Not available.

9.2 Other information

VOC content (Without volume exclusion)	: 0 % (w/w) 0 g/l
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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 is stable.
10.3 Possibility of hazardous reactions	: The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.
10.4 Conditions to avoid	: No specific data.
10.5 Incompatible materials	: No specific data.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 10: Stability and reactivity

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Potential Adverse effects

- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
 Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. 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. Solvents may cause some of the above effects by absorption through the skin.
 Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 wheezing and breathing difficulties
 asthma
- Ingestion** : Irritating to mouth, throat and stomach.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
 Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Animal studies have shown that respiratory sensitisation can be induced by skin contact with known respiratory sensitisers. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.
 Adverse symptoms may include the following:
 irritation
 redness
- Eye contact** : Causes serious eye irritation.
 Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Isocyanic acid, polymethylenepolyphenylene ester Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly (oxy-1,2-ethanediyl)	LC50 Inhalation Dusts and mists	Rat	0,49 mg/l	4 hours
	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	>10000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat - Male, Female	0,49 mg/m ³	4 hours
	LD50 Dermal	Rabbit - Male, Female	>9400 mg/kg	-
	LD50 Oral	Rat - Male	>10000 mg/kg	-

Isocyanic acid, polymethylenepolyphenylene ester: Harmful by inhalation.
 Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl): Harmful by inhalation.

Acute toxicity estimates

Product	ATE value
<input checked="" type="checkbox"/> Inhalation (vapours)	13,75 mg/l
<input checked="" type="checkbox"/> Inhalation (dusts and mists)	30 mg/l

SECTION 11: Toxicological information

Product Conclusion/ Summary : Harmful if inhaled.

Irritation/Corrosion

Skin : **Isocyanic acid, polymethylenepolyphenylene ester**: Irritating to skin.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl): Irritating to skin.

Eyes : **Isocyanic acid, polymethylenepolyphenylene ester**: Irritating to eyes.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl): Irritating to eyes.

Product Conclusion/ Summary : Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Sensitisation

Skin : **Isocyanic acid, polymethylenepolyphenylene ester**: May cause sensitisation by inhalation and skin contact.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl): May cause sensitisation by inhalation and skin contact.

Product Conclusion/ Summary : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Chronic toxicity

Mutagenicity

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

Carcinogenicity

Isocyanic acid, polymethylenepolyphenylene ester: Suspected of causing cancer.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl): Suspected of causing cancer.

Product Conclusion/ Summary : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Reproductive toxicity

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

Teratogenicity

Product 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
Isocyanic acid, polymethylenepolyphenylene ester	Category 3	Not applicable.	Respiratory tract irritation
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl)	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
Isocyanic acid, polymethylenepolyphenylene ester	Category 2	Inhalation	Not determined
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl)	Category 2	Not determined	Not determined

Aspiration hazard

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

Interactive effects : No specific data.

Other information : No specific data.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure	
Isocyanic acid, polymethylenepolyphenylene ester	Acute EC50 >1000 mg/l	Daphnia	48 hours	
	Acute LC50 >1000 mg/l	Fish	96 hours	
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly(oxy-1,2-ethanediyl)	Chronic EC50 >1640 mg/l	Algae	72 hours	
	Chronic NOEC >10000 mg/l	Algae	112 days	
	Chronic NOEC >10 mg/l	Daphnia	21 days	
	Chronic NOEC >10000 mg/l	Fish	112 days	
	Acute LC50 >1000 mg/l	Fish	96 hours	
			Fish	Static
	Chronic EC50 >1640 mg/l	Algae	72 hours	
Chronic NOEC >10 mg/l	Daphnia	21 days		
	Chronic NOEC >10000 mg/l	Fish	Semi-static	
			112 days	
			Static	

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Isocyanic acid, polymethylenepolyphenylene ester	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	0 % - 28 days	-	Fresh water

Conclusion/Summary : Not available.

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Isocyanic acid, polymethylenepolyphenylene ester	Fresh water 0,8 days, 20°C	-	Not readily
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly (oxy-1,2-ethanediyl)	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Isocyanic acid, polymethylenepolyphenylene ester	-	200	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

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

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
08 05 01*	waste isocyanates

Packaging

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

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

SECTION 13: Disposal considerations

SECTION 14: Transport information

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

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

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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

Other EU regulations

Europe inventory : All components are listed or exempted.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Listed

SECTION 15: Regulatory information

Integrated pollution prevention and control list (IPPC) - Water : Listed

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Isocyanic acid, polymethylenepolyphenylene ester	Carc. 2, H351	-	-	-
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-methyl-omega-hydroxypoly (oxy-1,2-ethanediyl)	Carc. 2, H351	-	-	-

Seveso II Directive

This product is not controlled under the Seveso II Directive.

National 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 Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

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

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

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

Classification	Justification
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Resp. Sens. 1, H334	Calculation method
Skin Sens. 1, H317	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H335	Calculation method
STOT RE 2, H373	Calculation method

SECTION 16: Other information

Full text of abbreviated H statements	: H315 H317 H319 H332 H334 H335 H351 H373	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. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure if inhaled.
Full text of classifications [CLP/GHS]	: Acute Tox. 4, H332 Carc. 2, H351 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT RE 2, H373 STOT RE 2, H373 (inhalation) STOT SE 3, H335	ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 RESPIRATORY SENSITIZATION - Category 1 SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (inhalation) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Date of issue/ Date of revision	: 18.11.2015.	
Date of previous issue	: 06.05.2015.	
Previous product name	: Not available.	
Version	: 6	