SAFETY DATA SHEET

ISO Component B1

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

Date of issue : 2019-06-25

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Version : 3

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

1.1 Product identifier

Product name : ISO Component B1

Chemical name : Isocyanic acid, polymethylenepolyphenylene ester

EC number : Not available.

CAS number : 9016-87-9

REACH Registration number : Not available.

Other means of identification : Polymethylenepolyphenyl isocyanate; Polymeric diphenylmethane diisocyanate; PAPI; polymeric diphenylmethane diisocyanate; polymeric MDI; METHYLENE DIPHENYL DIISOCYANATE; pMDI; Isocyanuric acid polymethylene polyphenyl isocyanate; polymeric MDI; MDI oligomers; Polymethylene polyphenylene isocyanate; Polymethylene polyphenyl polyisocyanate

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

Isocyanate component for the production of polyurethane systems.

1.3 Details of the supplier of the safety data sheet

PCC Prodex Sp. z o.o., ul. Sienkiewicza 4, 56-120 Brzeg Dolny, Poland
Phone: (+48) 71 794 3413
E-mail address: prodex@pcc.eu

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Not available.

Supplier

Telephone number : Phone: +48 71 794 2555, +48 71 794 2441 (available 24h) or +48 71 794 2690 (fax) at PCC Rokita SA or contact with the nearest branch of the State Fire Service

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Multi-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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

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

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

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

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2.2 Label elements

Hazard pictograms :

Signal word : Danger

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

Precautionary statements

General : Not applicable.

Prevention :
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing and eye or face protection.

Response :
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P302 + P352 - IF ON SKIN: Wash with plenty of water.If skin irritation or rash occurs: Get medical advice or attention.

Storage : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal : P501 - Dispose of contents/container to hazardous or special waste collection point.

Supplemental label elements :
EUH204 Contains isocyanates. May produce an allergic reaction.
As from 24 August 2023 adequate training is required before industrial or professional use.

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

2.3 Other hazards

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

PBT	P	B	T	vPvB	vP	vB
No.	No.	No.	No.	No.	No.	No.

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

SECTION 3: Composition/information on ingredients

3.1 Substance : Multi-constituent substance

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Isocyanic acid, polymethylenepolyphenylene ester	CAS: 9016-87-9	100	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) Specific concentration limits: Eye Irrit. 2: ≥5% Skin Irrit. 2: ≥5%	[*]

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			Resp. Sens. 1: ≥0,1% STOT SE 3: ≥5%	
4,4'-methylenediphenyl diisocyanate	EC: 202-966-0 CAS: 101-68-8 Index: 615-005-00-9	25 - 50	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 Specific concentration limits: Eye Irrit. 2: ≥5% Skin Irrit. 2: ≥5% Resp. Sens. 1: ≥0,1% STOT SE 3: ≥5%	[A]
o-(p-isocyanatobenzyl)phenyl isocyanate	EC: 227-534-9 CAS: 5873-54-1 Index: 615-005-00-9	1 - 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 (inhalation) Specific concentration limits: Eye Irrit. 2: ≥5% Skin Irrit. 2: ≥5% Resp. Sens. 1: ≥0,1% STOT SE 3: ≥5%	[A]
2,2'-methylenediphenyl diisocyanate	EC: 219-799-4 CAS: 2536-05-2 Index: 615-005-00-9	0.1 - 1	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 Specific concentration limits: Eye Irrit. 2: ≥5% Skin Irrit. 2: ≥5% Resp. Sens. 1: ≥0,1% STOT SE 3: ≥5% **See Section 16 for the full text of the H statements declared above.**	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[*] Substance
[A] Constituent
[B] Impurity
[C] Stabilising additive

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

3.2 Mixture : Not applicable.

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SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. 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. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. 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

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.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

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

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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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.
Unsuitable extinguishing media	:	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	In a fire or if heated, a pressure increase will occur and the container may burst.
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.
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. 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. 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.

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SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. 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. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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

Store in accordance with local regulations. 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. 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.

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

No exposure limit value known.

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

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Product/ingredient name	Type	Exposure	Value	Population	Effects
4,4'-methylenediphenyl diisocyanate	DNEL	Short term Dermal	50 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	0,1 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	28,7 mg/cm²	Workers	Local
	DNEL	Short term Inhalation	0,1 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,05 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	0,05 mg/m³	Workers	Local
	DNEL	Short term Dermal	25 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	0,05 mg/m³	General population [Consumers]	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Dermal	17,2 mg/cm²	General population [Consumers]	Local
	DNEL	Short term Inhalation	0,05 mg/m³	General population [Consumers]	Local
	DNEL	Long term Inhalation	0,025 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	0,025 mg/m³	General population [Consumers]	Local
o-(p-isocyanatobenzyl)phenyl isocyanate	DNEL	Long term Inhalation	0,025 mg/m³	General population	Local
	DNEL	Long term Inhalation	0,025 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	0,05 mg/m³	General population	Local
	DNEL	Short term Inhalation	0,05 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	0,05 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,05 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	0,1 mg/m³	Workers	Local
	DNEL	Short term Inhalation	0,1 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	17,2 mg/cm²	General population	Local
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	25 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	28,7 mg/cm²	Workers	Local
	DNEL	Short term Dermal	50 mg/kg bw/day	Workers	Systemic
2,2'-methylenediphenyl diisocyanate	DNEL	Long term Inhalation	0,025 mg/m³	General population	Local
	DNEL	Long term Inhalation	0,025 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	0,05 mg/m³	General population	Local
	DNEL	Short term Inhalation	0,05 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	0,05 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0,05 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	0,1 mg/m³	Workers	Local
	DNEL	Short term Inhalation	0,1 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	17,2 mg/cm²	General population	Local
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	25 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	28,7 mg/cm²	Workers	Local
	DNEL	Short term Dermal	50 mg/kg	Workers	Systemic

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			bw/day		

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
4,4'-methylenediphenyl diisocyanate	Fresh water Marine water Soil	1 mg/l 0,1 mg/l 10 mg/l	- - -

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical product, 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: Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to aerosols or splashes or when material is handled hot.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
> 8 hours (breakthrough time):
Use gloves made of:
1) butyl rubber at least 0.6 mm thick.
2) neoprene rubber at least 06 mm thick.
3) nitrile latex at least 0.6 mm thick.
< 1 hour (breakthrough time): Use gloves made of:
1) butyl rubber at least 0.4 mm thick.
2) neoprene rubber at least 0.4 mm thick.
3) nitrile latex at least 0.4 mm thick.
Wear suitable gloves tested to EN374.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: chemical-resistant protective suit

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. Recommended: Suitable protective footwear.

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: 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. full-face mask organic vapour (Type A) and particulate filter

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	:	Dark. Brown. [Dark]
Odour	:	Mild. [Slight]
Odour threshold	:	Lack of data.
pH	:	Lack of data.
Melting point/freezing point	:	<10°C
Initial boiling point and boiling range	:	199,85°C
Flash point	:	Closed cup: 217,85°C Open cup: >200°C [Product does not sustain combustion.]
Evaporation rate	:	Lack of data.
Flammability (solid, gas)	:	Lack of data.
Upper/lower flammability or explosive limits	:	Lack of data.
Vapour pressure	:	Lack of data.
Vapour density	:	Lack of data.
Density	:	1,23±0.05 g/cm³ [25°C]
Relative density	:	1,2
Solubility(ies)	:	Lack of data.
Solubility in water at room temperature (g/l)	:	Lack of data.
Partition coefficient: n-octanol/ water	:	Lack of data.
Auto-ignition temperature	:	>600°C
Decomposition temperature	:	Lack of data.
Viscosity	:	Dynamic: 200 ±60 mPa·s [25°C]
Explosive properties	:	Lack of data.
Oxidising properties	:	Lack of data.
Additional information	:	Lack of data.

9.2 Other information

No additional information.

Nota: Integers (i.e. 3 or 7) should be read as decimals (3.0 or 7.0)

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Reacts violently with water, acids, alcohols, amines, bases and oxidizing agents.
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	:	Protect from sunlight. Store in a well-ventilated place. Keep away from water or moist air. Moisture-sensitive material. Do not store below 10°C or above 35°C.
10.5 Incompatible materials	:	water, acids, alcohol, amines, bases, strong oxidats

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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
Isocyanic acid, polymethylenepolyphenylene ester	LC50 Inhalation Vapour	Rat	490 mg/m³	4 hours
	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	49 g/kg	-
4,4'-methylenediphenyl diisocyanate	LD50 Oral	Rat	9200 mg/kg	-

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Isocyanic acid, polymethylenepolyphenylene ester	49000	N/A	N/A	11	N/A
4,4'-methylenediphenyl diisocyanate	9200	N/A	N/A	N/A	1,5
o-(p-isocyanatobenzyl)phenyl isocyanate	N/A	N/A	N/A	N/A	1,5
2,2'-methylenediphenyl diisocyanate	N/A	N/A	N/A	N/A	1,5

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Isocyanic acid, polymethylenepolyphenylene ester	Eyes - Mild irritant	Rabbit	-	100 mg	-
4,4'-methylenediphenyl diisocyanate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-

Conclusion/Summary : Not available.

Sensitisation

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Isocyanic acid, polymethylenepolyphenylene ester	Category 3	-	Respiratory tract irritation
4,4'-methylenediphenyl diisocyanate	Category 3	-	Respiratory tract irritation
o-(p-isocyanatobenzyl)phenyl isocyanate	Category 3	-	Respiratory tract irritation
2,2'-methylenediphenyl diisocyanate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

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Product/ingredient name	Category	Route of exposure	Target organs
Isocyanic acid, polymethylenepolyphenylene ester	Category 2	inhalation	-
4,4'-methylenediphenyl diisocyanate	Category 2	-	-
o-(p-isocyanatobenzyl)phenyl isocyanate	Category 2	inhalation	-
2,2'-methylenediphenyl diisocyanate	Category 2	-	-

Aspiration hazard

No known significant effects or critical hazards.

Potential acute health effects

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Ingestion : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

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

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

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : No known significant effects or critical hazards.

12.2 Persistence and degradability

Conclusion/Summary : No known significant effects or critical hazards.

12.3 Bioaccumulative potential

Not applicable.

12.4 Mobility in soil

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Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Isocyanic acid, polymethylenepolyphenylene ester	No	No	No	No.	No	No	No

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

SECTION 13: Disposal considerations

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 or 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* 16 03 05*	waste isocyanates organic wastes containing 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.

Type of packaging	European waste catalogue (EWC)	
Barrel	15 01 10*	packaging containing residues of or contaminated by hazardous substances
Intermediate Bulk Container (IBC)	15 01 10*	packaging containing residues of or contaminated by 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

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

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Additional information

ADR/RID : Not applicable.

14.6 Special precautions for user : Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable.

International transport regulations

This product is not regulated for carriage according to ADR/RID, ADN, IMDG, ICAO/IATA.

SECTION 15: Regulatory information

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

REGULATION (EC) NO 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) constituting Appendix C to the Convention concerning International Carriage by Rail (COTIF)

International Maritime Dangerous Goods Code (IMDG CODE)

IATA /International Air Transport Association/ Dangerous Goods Regulations (IATA DGR)

Ordinance of the Minister of Labour and Social Policy of 12 June 2018 concerning maximum permissible concentrations and intensities of agents harmful to health in a work environment (Journal of Laws 2018 item 1286).

Act on Waste of 14 December 2012 (Dz. U. /Journal of Laws/ of 2013, No. 0, item 21)

Act on Packaging and Packaging Waste Management of 13 June 2013 (Dz. U. /Journal of Laws/ of 2013, No. 0, item 888)

Act on Chemical Substances and Their Mixtures of 25 February 2011 (Dz. U. /Journal of Laws/ No. 63, item 322)

Regulation of the Minister of Labour and Social Policy on the general occupational health and safety regulations of 26 September 1997 (Dz. U. /Journal of Laws/ of 2003, No. 169, item 1650 as amended)

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 : Not determined.

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

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

SECTION 16: Other information

Changes to the Safety Data Sheet	:	2.2 Additional regulations for EU-specific countries
Training advice	:	Ensure operatives are trained to minimise exposures.
Abbreviations and acronyms	:	ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS = Chemical Abstracts Service CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] CMR = Carcinogen, Mutagen or Reproductive toxicant CSA = Chemical Safety Assessment CSR = Chemical Safety Report DNEL = Derived No Effect Level EC number = EINECS or ELINCS number EC50 = Half maximal effective concentration ES = Exposure Scenario EUH statement = CLP-specific Hazard statement EWC = European Waste Catalogue GHS = Globally Harmonized System of Classification and Labelling of Chemicals H statement = CLP/GHS Hazard statement IATA = International Air Transport Association IC50 = Half maximal inhibitory concentration IMDG = International Maritime Dangerous Goods LC50 = Median lethal concentration LD50 = Median lethal dose LogPow = logarithm of the octanol/water partition coefficient MARPOL= International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) OECD = Organisation for Economic Co-operation and Development PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006] RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail RRN = REACH Registration Number STOT = Specific Target Organ Toxicity SVHC = Substances of Very High Concern VOC = Volatile Organic Compound vPvB = Very Persistent and Very Bioaccumulative
Key literature references and sources for data	:	- Manufacturer's Material Safety Data Sheet.

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

Classification	Justification
Acute Tox. 4, H332	On basis of test data
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Resp. Sens. 1B, H334	Expert judgment
Skin Sens. 1B, H317	Expert judgment
Carc. 2, H351	Expert judgment
STOT SE 3, H335	Expert judgment
STOT RE 2, H373	Expert judgment

Full text of abbreviated H statements

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

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Carc. 2	CARCINOGENICITY - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Resp. Sens. 1B	RESPIRATORY SENSITISATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Notice to reader

The information contained herein is accurate to the latest knowledge and describes the product from the point of view of help and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"

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