Component B, PU 1500 Scrape Coat

Safety Data Sheet

pursuant to Regulation (EC) No 453/2010

Publication date: 03/08/2021

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

	1.1	Product identification Product form: Mixture Product code : Dutch Resin Component B, PU 1500 Scrape layer Product group: PU Flooring
	1,2	Relevant identified use Main usage category Industrial/Professional use spec. Use of the substance or mixture; Forms of use that are advised against Industrial use For professional use only Flooring No additional information available
	1.3	Dutch Resin Group P.O. Box 1074 7301 BH Apeldoorn T +31 (0)55 312 44 65 info@dutchresin.nl Visiting address Gladsaxe 19 Apeldoorn
	1.4	Emergency number: T +31 (0)55 312 44 65 This number is only available during office hours.

Land	Official advisory body	Address	Emergency number
NETHERLANDS	National Poisons Information Center. University Medical Center Utrecht, The National Poisons Information Center (NVIC) informs doctors, veterinarians, pharmacists, and other healthcare professionals about the possible health effects and treatment options for poisonings. The NVIC is available for this purpose day and night, both by telephone and via the internet.	P.O. Box 85500 3508 GA Utrecht	+31 30 274 88 88

SECTION 2: Identification of hazards

	2.1	Classification of the substance or mixture
		Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled cause. Carc. 2 H351 Suspected of causing cancer. STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure. GHS07 Acute Tox. 4 H332 Harmful by inhalation. Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2 H319 Causes serious eye irritation. Skin Sens. 1 H317 May cause an allergic skin reaction. STOT SE 3 H335 May cause respiratory irritation.  GHS 07 GHS 08

	2.2	Labeling elements
		• Labelling in accordance with Regulation (EC) No 1272/2008 The product is classified and labelled in accordance with the CLP Regulation. · Hazard pictograms GHS07, GHS08 · Signal word Danger · Hazard-indicating components for labelling: diphenylmethane diisocyanate, isomers and homologues · Hazard statements H332 Harmful if inhaled. H315 Causes skin irritation. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or difficulty breathing 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. · Safety recommendations P201 Consult the special instructions before use. P280 Protective gloves/protective clothing/eye protection/face protection wear. P302+P352 IF IN CONTACT WITH SKIN: Wash with plenty of water and soap. P333+P313 If skin irritation or rash occurs: consult a doctor. P305+P351+P338 IF IN CONTACT WITH EYES: rinse carefully with water for a number of minutes; remove contact lenses, if possible; continue rinsing. P337+P313 If eye irritation persists: consult a doctor. P304+P340 AFTER INHALATION: move the person to fresh air and ensure that they can breathe easily. P342+P311 If respiratory symptoms occur: Consult a POISON CENTER/doctor. Additional information: EUH204 Contains isocyanates. May cause an allergic reaction.
	2.3	Other dangers
		• Results of PBT and zPzB assessment · PBT: Not usable. · zPzB: Not usable.

SECTION 3: Composition and information on ingredients

	3.2	Mixture of hazardous and non-hazardous substances			
		name	Product identification	%	Classification in accordance with Regulation (EC) No 1272/2008 [CLP]
		Polyisocyanate based on diphenylmethane diisocyanate			
		diphenylmethane-4,4'-diisocyanate	CAS No.: 101-68-8	25-50	
		Index no.: 615-005-00-9 EC No.: 202-966-0			

		01-2119457014-47-0008, 01-2119457014-47-0009, 01-2119457014-47-0031 Classification (1272/2008/EC): Acute Tox. 4 Inhalative 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 Inhalative H373 Specific limit concentrations: Eye Irrit. 2 H319 >= 5 % Skin Irrit. 2 H315 >= 5 % Resp. Sens. 1 H334 >= 0.1% STOT SE 3 H335 >= 5 %			
		diphenylmethane-2,4'-diisocyanate	CAS No.: 5873-54-1	25-50	
		Index no.: 615-005-00-9 REACH registration number: 01-2119480143-45-0000, 01-2119480143-45-0001, 01-2119480143-45-0002 Classification (1272/2008/EC): Acute Tox. 4 Inhalative 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 Inhalative H373 Specific limit concentrations: Eye Irrit. 2 H319 >= 5 % Skin Irrit. 2 H315 >= 5 % Resp. Sens. 1 H334 >= 0.1% STOT SE 3 H335 >= 5%			
		diphenylmethane diiso cyanate, isomers and homologues	CAS No.: 9016-87-9	10-25	
		Index no.: 615-005-00-9 Classification (1272/2008/EC): Acute Tox. 4 Inhalative 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 Inhalative H373			
		2,2'-methylene diphenyl diisocyanate	CAS No.: 2536-05-2	1-5	
		Index no.: 615-005-00-9 EC No.: 219-799-4 REACH registration number: 01-2119927323-43-0000, 01-2119927323-43-0001 Classification (1272/2008/EC): Acute Tox. 4 Inhalative 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 Inhalative H373 Specific limit concentrations: Eye Irrit. 2 H319 >= 5 % Skin Irrit. 2 H315 >= 5 % Resp. Sens. 1 H334 >= 0.1% STOT SE 3 H335 >= 5 %			
		Isophthalic acid dichloride	CAS No.: 99-63-8	<0.5	
		EC No.: 202-774-7 REACH registration number: 01-2119493993-19 Classification (1272/2008/EC): Acute Tox. 3 Inhalative H331 Acute Tox. 4 Dermal H312 Skin Corr. 1A H314 Eye Dam. 1 H318			

		Candidate list of substances, great care regarding authorization **This product does not contain substances of very high risk in concentrations subject to an information** **obligation (REACH Directive (EC) No 1907/2006, Article 59)**
		Full content of the R, H and EUH phrases: see section 16
SECTION 4: First aid measures		
	4.1	Description of the first aid measures
		General advice: Immediately remove, disinfect, and dispose of soiled or soaked clothing and shoes. In case of inhalation: Move person to fresh air, keep warm, allow to rest; medical assistance is required if breathing difficulties occur. In case of contact with skin: In case of contact with skin, preferably wash with a cleanser based on polyethylene glycol or clean with plenty of warm water and soap. In case of skin reactions, consult a doctor. In case of contact with eyes: Rinse open eyes with lukewarm water for a sufficient length of time (at least 10 minutes), if possible. Consult an ophthalmologist. If swallowed: DO NOT induce vomiting. Rinse mouth with water. Medical advice required.
	4.2	Main acute and delayed symptoms and effects
		Notes for the physician: The product irritates the respiratory tract and can cause hypersensitivity of the skin and respiratory tract. Treatment of acute irritation or bronchoconstriction is primarily symptomatic. Depending on the degree of exposure and symptoms, prolonged medical care may be necessary.
	4.3	Indication of the required immediate medical care and special treatment
		Therapeutic measures: No data available.
SECTION 5: Firefighting measures		
	5.1	Extinguishing equipment
		Suitable extinguishing agents: Foam. AFFF. Water mist. Unsuitable extinguishing agents:
	5.2	none Special hazards caused by the substance or mixture In the event of
		fire, carbon monoxide, carbon dioxide, nitrogen oxide, isocyanate vapors and traces of hydrogen cyanide (prussic acid) are produced. Avoid inhaling smoke in the event of fire and/or explosion. In the event of a fire in the immediate vicinity, increased pressure, risk of bursting. Cool containers threatened by fire with water and, if possible, remove them from the danger zone.
	5.3	Advice for firefighters
		During firefighting, respiratory protection with independent air supply and a tight-fitting chemical protective suit are required. Do not allow contaminated extinguishing water to penetrate the soil, groundwater, or surface water.
SECTION 6: Measures in the event of accidental release of the substance or mixture		
	6.1	Personal precautions, protective equipment and emergency procedures
		Put on safety clothing (see section 8). Ensure adequate airflow and ventilation. Keep uninvolved persons at a distance
	6.11 For	persons other than emergency services
		Protective equipment: Equip cleaning staff with appropriate protection.

		Emergency procedures: Keep spectators at a distance.
	6.12 For	the emergency services
		additional information available
	6.2	Environmental precautions
		Prevent penetration into the soil/subsoil. Prevent runoff into surface water or the sewer. Store the contaminated rinse water and dispose of it. In the event of a gas leak or infiltration into watercourses, soil, or sewers, notify the responsible authorities. Suitable material for collection: absorbent material, organic matter, sand.
	6.3	Methods and material for containment and cleaning up
	6.3	Remove mechanically; cover the residue with damp, liquid-absorbent material (e.g., sawdust, calcium silicate hydrate-based chemical binder, sand). After approx. 1 hour, place in waste packaging; do not seal (CO2 generation!). Keep moist and leave outdoors in a safe place for several days. The spilled area can be cleaned with the following recommended disinfection solution: Disinfectant solution 1: 8-10% sodium carbonate and 2% liquid soap in water Disinfectant solution 2: liquid/traditional soap (potassium soap with ~15% anionic surfactant): 20 ml; water: 700 ml; polyethylene glycol (PEG 400): 350 ml Disinfectant 3: 30% liquid detergent for commercial purposes (contains monoethanolamine), 70% water.
	6.4	Reference to other sections
		Regarding waste disposal after cleaning, see section 13. See section 8 regarding the use of personal protective equipment.
SECTION 7: Handling and storage		
	7.1	Precautions for the safe handling of the substance or mixture
		General terms and conditions of use are further specified in the annex in accordance with REACH Regulation (EC) No 1907/2006. Ensure adequate ventilation and/or extraction in the workplace. Air extraction is required for spray application. For solid products: Avoid dust generation and dust deposition. The air limit values mentioned in Paragraph 8 must be respected. In workplaces where isocyanate aerosols and/or vapors may be generated in higher concentrations, exceedance of the air limit value must be prevented by targeted air extraction. Air circulation must take place away from the persons. For products containing solvents: Protection against explosion required. The personal safety measures described in Paragraph 8 must be observed. The safety measures required when handling isocyanates must be observed. Avoid contact with skin and eyes as well as inhalation of vapors. Keep separate from food and beverages. Wash hands and use skin protection ointment before breaks and after finishing work. Keep work clothing separate. Remove contaminated clothing immediately.
	7.2	Conditions for safe storage, including incompatible products
		Keep dry and store in a tightly closed container. Further storage information to ensure quality can be found in our technical product information sheet.
	7.3	Specific end-use

B Component coating

SECTION 8: Exposure control measures/personal protection

8.1 Control parameters

Risk management measures (RMM) are further specified in the Annex pursuant to REACH Regulation (EC) No 1907/2006.

Ensure general ventilation.
Ensure suitable targeted ventilation.
Equipment must be inspected and maintained.
Hygiene measures:
Avoid contact with skin and eyes.
Wash contamination off the skin immediately.
Clean up spilled product immediately
Train and inform staff about the dangers

No data concerning air limit values required under EC Directive 2006/121/EC.

No data concerning air limit values required under EC Directive 2006/121/EC.

The product may contain traces of phenyl isocyanate.
Derived dose without effect (DNEL)

diphenylmethane 4,4'-diisocyanate

Value type	Exposure-route	Consequences for the health	Value	Comments
Employee Inhalation		Long-term local effects	0.05 mg/m3	Most sensitive endpoint: irritation (respiratory tract)
Employee Inhalation		Acute - local effects	0.1 mg/m3	Most sensitive endpoint: irritation (respiratory tract)

diphenylmethane 2,4'-diisocyanate

Value type	Exposure- for the route	Consequences for health	Value	Comments
Employee Inhalation		Long-term local effects	0.05 mg/m3	Most sensitive endpoint: irritation (respiratory tract)
Employee Inhalation		Acute - local effects	0.1 mg/m3	Most sensitive endpoint: irritation (respiratory tract)

2,2'-methylenediphenyl diisocyanate

Value type	Exposure route	Implications for health	Value	Comments
Employee Inhalation		Long term	0.05 mg/m3	Most sensitive endpoint:

		local effects		(airways)
Employee Inhalation		Acute - local effects	0.1 mg/m3	Most sensitive endpoint: irritation (respiratory tract)
Inhalation	Long-term local effects	0.025 mg/m3	Most sensitive endpoint: irritation (respiratory tract)	
Inhalation	Acute - local effects	0.005 mg/m3	Most sensitive endpoint: irritation (respiratory tract)	

Isophthalic acid dichloride

Value type	Exposure route	Health consequences	Value	Comments
Employee Inhalation		Long term - systemic effects	3.94 mg/m3	
Dermal Employees		Long term - systemic effects	4.47 mg/kg bw/day	

8.2 Measures to control exposure

Protection of the respiratory tract

Nose and mouth protection is required in case of insufficient ventilation at the workplace and during injection molding. A fresh-air mask is recommended, or for short-term work, combination filter A2-P2 (EN529).

If applicable, you will find further recommendations on respiratory protection in the appendix.

Handling of the product is advised against in case of hypersensitivity of the respiratory tract (asthma, chronic bronchitis).

Hand protection

Suitable material for safety gloves; EN 374:
Butyl rubber, nitrile rubber, chloroprene rubber (neoprene).
Note: suitable materials providing sufficient protection for industrial cleaning with aprotic, polar solvents (meeting the IUPAC definition): butyl rubber.
For prolonged or frequently repeated contact, a glove with protection class 5 or higher (breakthrough time longer than 240 minutes according to EN374) is recommended. When only brief contact is expected, a glove with protection class 3 or higher (breakthrough time longer than 60 minutes according to EN374) is recommended.

The thickness of the glove is not the only criterion for the level of protection a glove offers against a chemical substance, as this level of protection also depends to a large extent on the specific composition of the material from which a glove is made. Depending on the model and type of material, the thickness of the glove must generally be more than 0.35 mm to provide sufficient protection for prolonged and frequent contact with the substance. An exception to this rule are multilayer, laminated gloves, which can also offer long-term protection at a thickness smaller than 0.35 mm. Other glove materials with a thickness smaller than 0.35 mm may provide sufficient

		provide protection when only brief contact is expected. For solvent-free products: Example: Polychloroprene - CR: thickness >=0.5mm; Breakthrough time >=480min. Nitrile rubber >=0.35mm; Breakthrough time >=480min. Butyl rubber - IIR: thickness >=0.5mm; Breakthrough time >=480min. Fluororubber - FKM: thickness >=0.4mm; Breakthrough time >=480min. Advice: remove contaminated gloves. Eye protection Wear safety glasses with side protection in accordance with EN 166. Skin and body protection Wear protective clothing (resistant to chemicals). It is not recommended to use this product if you have hypersensitivity of the skin. Safety measures for handling freshly produced PUR molded parts: see section 16
SECTION 9: Physical and chemical properties		
	9.1	Information about basic physical and chemical properties
		Appearance: liquid Colour: dark brown Odor: earthy, musty Odor threshold: not established pH: Not applicable Solidification temperature: 5 - 10 °C Flash point: > 200 °C Evaporation rate: not established Flammability (solid, gas): Not applicable Fire number: Not applicable Upper/lower flammability or explosion limits: isophthalic acid dichloride / lower: 1.5 %(V) Vapor pressure: Diphenylmethane diisocyanate, (MDI) < 0.00001 hPa (20°C) < 0.0005 hPa (50°C) For products with a very low vapor pressure, the apparent vapor pressure may be higher than the vapor pressure of the pure product as a result of the production, storage, or transport process, for example due to dissolved gases such as nitrogen or carbon dioxide: 5 hPa at 20 °C EC A4 11 hPa at 50 °C EC A4 12 hPa at 55 °C EC A4 Vapor density: not established Density: approx. 1.22 g/ cm³ at 20 °C DIN 51757 Miscibility with water: immiscible at 15 °C Surface tension: not established Partition coefficient (nÿoctanol/water): not established Autoignition temperature: Not applicable Ignition temperature: > 400 °C DIN 51794 Decomposition temperature: approx. 260 °C Viscosity, dynamic: approx. 22.5 mPa.s at 25 °C Explosive properties: not established Dust explosion class: Not applicable Oxidizing properties: not determined
	9.2	Other information

		The values provided do not correspond to the product specification for every case. The specifications must be taken from the technical information sheet.
SECTION 10: Stability and reactivity		
	10.1	Reactivity
		No additional information available
	10.2 Chemical stability	
		Not determined.
	10.3 Possible dangerous reactions	
		Exothermic reaction with amines and alcohols; with water, CO2 evolution; increased pressure in closed packaging; risk of bursting.
	10.4 Conditions to be avoided	
		This information is not available.
	10.5 Chemically interacting materials	
		This information is not available.
	10.6	Dangerous decomposition products.
		No hazardous decomposition products with professional storage and handling.
SECTION 11: Toxicological information		
	11.1	Information about toxicological effects
		Toxicological studies of the product are not available. See below the toxicological data available to us for the components (hazardous components). Acute toxicity, oral diphenylmethane 4,4'-diisocyanate LD50 Rat, male/female: > 2,000 mg/kg Method: Directive 84/449/EEC, B.1 Toxicological studies on a comparable product. diphenylmethane 2,4'-diisocyanate LD50 Rat, male/female: > 2,000 mg/kg Method: Directive 84/449/EEC, B.1 Toxicological studies on a comparable product. diphenylmethane diisocyanate, isomers and homologues LD50 Rat, male/female: > 10,000 mg/kg Method: OECD 401 Guideline Test 2,2'-methylenediphenyl diisocyanate LD50 Rat, male/female: > 2,000 mg/kg Method: Directive 84/449/EEC, B.1 isophthalic acid dichloride LD50 Rat: > 5,000 mg/kg Acute toxicity, dermal diphenylmethane 4,4'-diisocyanate LD50 Rabbit, male/female: > 9,400 mg/kg Method: OECD 402 Guideline test Investigating a similar product.

diphenylmethane 2,4'-diisocyanate
LD50 Rabbit, male/female: > 9,400 mg/kg
Method: OECD 402 Guideline test
Investigating a similar product.

diphenylmethane diisocyanate, isomers and homologues
LD50 Rabbit, male/female: > 9,400 mg/kg
Method: OECD 402 Guideline test

2,2'-methylenediphenyl diisocyanate
LD50 Rabbit, male/female: > 9,400 mg/kg
Method: OECD 402 Guideline test
Investigating a similar product.

isophthalic acid dichloride
LD50 Rabbit: 1,410 mg/kg

Acute toxicity, inhalatory
ATEmix (inhalation): 1.5 mg/l, 4 h
Test atmosphere: dust/mist
Method: Calculation method
diphenylmethane 4,4'-diisocyanate
LC50 Rat, male: 0.368 mg/l, 4 h
Test atmosphere: dust/mist
Method: OECD 403 Guideline test
The test atmosphere established in the animal experiment is not representative of working environments, how the substance is marketed, and how it can reasonably be expected to be used.

The test result therefore cannot be applied directly to assess hazard. Based on expert assessment and evaluation of the evidence, a modified classification for acute inhalation toxicity is justified.

Assessment: Harmful if inhaled.
Converted acute toxicity estimate 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment
diphenylmethane 2,4'-diisocyanate
LC50 Rat, male: 0.387 mg/l, 4 h
Test atmosphere: dust/mist
The test atmosphere established in the animal experiment is not representative of working environments, how the substance is marketed, and how it can reasonably be expected to be used. The test result can therefore not be applied directly to assess hazard. Based on expert assessment and evaluation of the evidence, a modified classification for acute inhalation toxicity is justified.

Assessment: Harmful if inhaled.
Converted acute toxicity estimate 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment
diphenylmethane diisocyanate, isomers and homologues
LC50 Rat, male/female: 0.31 mg/l, 4 h
Test atmosphere: dust/mist
Method: OECD 403 Guideline test
The test atmosphere established in the animal test is not representative of working environments, how the substance is marketed, and how it can reasonably be expected to be used. The test result can therefore not be applied directly to assess hazard. Based on expert assessment and the

Based on the assessment of the evidence, a modified classification for acute inhalation toxicity is justified.

Assessment: Harmful if inhaled.
Converted acute toxicity estimate 1.5 mg/l Test atmosphere:
dust/mist Method: Expert
judgment 2,2'-methylenediphenyl
diisocyanate LC50 Rat, han: 0.527 mg/l, 4 h
Test atmosphere: dust/mist Method:
OECD 403 Test guideline The
test atmosphere established in the animal
test is not representative of working environments, how the substance is marketed, and how it can reasonably be expected to be used. The test result can therefore not be applied directly to assess hazard. Based on expert assessment and evaluation of the evidence, a modified classification for acute inhalation toxicity is justified. Investigations into the product.

Assessment: Harmful by inhalation. Converted acute toxicity estimate 1.5 mg/l Test atmosphere: dust/mist
Method: Expert judgment
isophthalic acid dichloride LC50 Rat:
0.7 mg/l, 4 h Test
atmosphere: dust/mist
Toxicological studies on a
comparable product.
Primary skin irritant effect
diphenylmethane-4,4'-diisocyanate Species:
Rabbit Result:
Irritant Classification:
Causes skin irritation.
Method: OECD 404 Toxicological studies
on a comparable product. diphenylmethane-2,4'-diisocyanate Species: Rabbit
Result: Irritant Classification: Causes skin
irritation.

Method: OECD 404 Test Guideline
Toxicological studies of a comparable product. diphenylmethane diisocyanate,
isomers and homologues Species: Rabbit Result: mildly irritating
Method: OECD
404 Test Guideline 2,2'-
methylenediphenyl diisocyanate Species:
Rabbit Result: mildly irritating Method: OECD
404 Test
Guideline Toxicological studies
of the product.

Classification: Causes skin irritation.
Regulation (EC) No 1272/2008

Isophthalic acid dichloride
Species: Rabbit
Result: Corrosive
Classification: Causes severe burns to the skin and eye damage (skin corr. 1A).
Toxicological studies on a comparable product.
Acute mucosal irritation
diphenylmethane-4,4'-diisocyanate Species:
Rabbit Result:
non-irritating

Method: OECD 405 Test Guideline

Toxicological studies of a comparable product. diphenylmethane-2,4'-diisocyanate Species: Rabbit Result: non-irritating Method: OECD 405 Test Guideline

Toxicological studies of a comparable product. diphenylmethane diisocyanate, isomers and homologues Species: Rabbit Result: non-irritating Method: OECD 405 Test Guideline

Toxicological studies of a comparable product. 2,2'-methylenediphenyldiisocyanate Species: Rabbit Result: mildly irritating Method: OECD 405 Test Guideline

Toxicological studies of the product.

Classification: Causes severe eye irritation.

Regulation (EC) No 1272/2008 isophthalic acid dichloride Classification: Causes serious eye damage.

Since this substance has already been classified as “corrosive”, the risk of serious eye injury is implicit.

Sensitization to diphenylmethane-4,4'-diisocyanate Skin sensitization according to Buehler (Epikutan test): Species: Guinea pig Result: negative

Classification: Does not cause skin hypersensitivity.

Method: Guideline test OECD 406 Skin hypersensitivity - local lymph node assay (LLNA): Species: Mouse Result: Positive

Classification: May cause hypersensitivity on contact with skin.

Method: OECD Test Guideline 429

Respiratory sensitization Species: Guinea pig

Result: positive

Classification: May cause hypersensitivity by inhalation. diphenylmethane-2,4'-diisocyanate Skin sensitization according to Buehler (Epikutan test): Species: Guinea pig Result: negative

Classification: Does not cause skin hypersensitivity.

Method: OECD Guideline 406 Toxicological studies on a comparable product.

Carcinogenicity of diphenylmethane-4,4'-diisocyanate Species: Rat, male/female Method of application: Inhalation Dose levels: 0 - 0.2 - 1 - 6 mg/m3

Test substance: as aerosol Duration of exposure: 2 a Frequency of treatment: 6 hours/day, 5 days/week Method: OECD Guideline test 453 The occurrence of tumors in the highest dose group.

		Investigation of a comparable product. diphenylmethane-2,4'- diisocyanate Species: Rat, male/female Method of application: Inhalation Dose levels: 0 - 0.2 - 1 - 6 mg/m3 Test substance: as aerosol Duration of exposure: 2 a Frequency of treatment: 6 hours/day, 5 days/week Method: OECD 453 Guideline test The occurrence of tumors in the highest dose group. Investigations of a comparable product. diphenylmethane diisocyanate, isomers and homologues Species: Rat, male/female Method of application: Inhalation Dose levels: 0 - 0.2 - 1 - 6 mg/m3 Test substance: as aerosol Exposure duration: 2 a Treatment frequency: 6 hours/day, 5 days/week Method: OECD 453 guideline test The occurrence of tumors in the highest dose group. 2,2'-methylenediphenyl diisocyanate Species: Rat, male/female Method of application: Inhalation Dose levels: 0 - 0.2 - 1 - 6 mg/m3 Test substance: as aerosol Exposure duration: 2 a Treatment frequency: 6 hours/day, 5 days/ week Method: OECD 453 guideline test The occurrence of tumors in the highest dose group. Investigating a similar product. CMR assessment diphenylmethane-4,4'-diisocyanate Carcinogenicity: Suspected carcinogen by inhalation (Carc. 2). Mutagenicity: In vitro and in vivo tests showed no mutagenic effects. Based on available data; classification criteria have not been met. Teratogenicity: Showed no teratogenic effects in animal experiments. Based on available data; classification criteria have not been met. Reproductive toxicity/fertility: Based on available data; classification criteria have not been met.
SECTION 12: Ecological information		
	12.1	toxicity
		Ecotoxicological studies on the product are not available. Do not allow to penetrate surface water, wastewater, or soil. The following lists the ecotoxicological data associated with the components, insofar as they are available to us.
	12.2	Persistence and degradability
		No further relevant information available.
	12.3 Bioaccumulation:	
		No further relevant information available.
	12.4	Mobility in the soil

		Distribution in and between environmental compartments diphenylmethane 4,4'-diisocyanate Adsorption/soil Not applicable.
	12.5 Results of PBT and zPzB assessment	
		This substance/mixture does not contain components that can be considered persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
	12.6 Other harmful effects	
		Isocyanate reacts with water at the interface, forming CO2 and a solid, insoluble product with a high melting point (polyurea). This reaction is strongly promoted by surfactants (e.g., liquid soap) or water-soluble substances. Based on current experience, polyurea is inert and non-biodegradable.
	12.7 Other harmful effects	
		Not known
SECTION 13 Disposal instructions		
	13.1 Waste processing methods	
		After the final product withdrawal, product residues must be removed from the packaging (drip-free, powder-free, paste-free). After neutralization of the product residues remaining on the walls, the product and hazard warning must be removed. These packages may be handed over, specifically per packaging medium, to the collection points of the existing take-back systems of the chemical industry for recycling. Reuse or recycling must be carried out in accordance with national laws and regulations and environmental protection measures. No discharge via wastewater.
SECTION 14: Information regarding transport		
		Land transport (ADR / RID / GGVSEB
	14.1 UN number	
		ADR-UN Number: Non-dangerous goods IATA-UN Number: Non-dangerous goods IMDG-UN Number: Non-hazardous goods
	14.2	Proper shipping name in accordance with the UN Model Regulations:
		ADR Shipping Name: Non-dangerous goods IATA Shipping Name: Non-dangerous goods IMDG-Shipping Name: Non-hazardous goods
	14.3 Transport hazard class(es):	
		ADR Class: Non-dangerous goods ADR - Hazard identification number: Non-dangerous goods IATA Class: Non-dangerous goods IATA Label: Non-dangerous goods IMDG Class: Non-hazardous goods IMDG Class: Non-hazardous goods
	14.4 Packaging group:	
		ADR-Packing Group: Non-hazardous goods

		IATA Packing group: Non-dangerous goods IMDG-Packing group: Non-hazardous goods
	14.5 Environmental hazards:	
		ADR Environmental pollutant: Non-hazardous goods IMDG-Marine pollutant: Non-hazardous goods
	14.6 Special precautions for the user:	
		See sections 6-8. Further instructions: No dangerous goods to transport. Protect against moisture. Heat sensitive from +50 °C. Cold sensitive from +10 °C. Keep separate from foodstuffs, stimulants, acids, and alkalis
	14.7 Transport in bulk in accordance with Annex II to MARPOL 73/78 and the IBC Code	
		Not applicable
SECTION 15: Regulations		
	15.1	Specific safety, health and environmental regulations and legislation for the substance or mixture
		Directive 2012/18/EU on the control of major accident hazards involving dangerous substances. Not applicable REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) Restriction conditions for the following dates must be taken into consideration: 3, 56, 56 This product contains substances subject to EU Directive 1907/2006 (REACH), Annex XVII. diphenylmethane 4,4'-diisocyanate CAS No.: 101-68-8, EC No.: 202-966-0 Subject to REACH Annex XVII, No. 56 diphenylmethane 2,4'-diisocyanate CAS No.: 5873-54-1 Subject to REACH Annex XVII, No. 56 2,2'-methylenediphenyl diisocyanate CAS No.: 2536-05-2, EC No.: 219-799-4 Subject to REACH Annex XVII, No. 56
	15.2 Chemical safety assessment	
		All existing national regulations regarding the handling of isocyanates must be observed. For products containing solvents: All existing national regulations regarding the handling of solvents must be observed. Chemical safety assessment has been performed for: diphenylmethane 4,4'-diisocyanate diphenylmethane 2,4'-diisocyanate 2,2'-methylenediphenyl diisocyanate isophthalic acid dichloride
SECTION 16: Other information		
		Full text of hazard statements (H-phrases) according to sections 2, 3 and 10 of the CLP classification (1272/2008/EC). H312 Harmful in contact with skin.

H314 Causes severe burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic by inhalation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or difficulty breathing if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

The product is primarily used as a hardener in coating materials or adhesives. Handling polyurethane raw materials containing reactive polyisocyanates and residual levels of monomeric MDI requires appropriate safety measures (see also this Safety Data Sheet). Therefore, these products may only be used in industrial or professional applications. They are not suitable for use in DIY applications. ISOPA guidelines for safe loading/unloading, transport, and storage of TDI and MDI. See the ISOPA website: www.isopa.org (Product Stewardship “Walk the Talk”).

Other information: #
REACH Declaration: All information is based on current knowledge. Consistency of the data in this Safety Data Sheet with the data stated in the Chemical Safety Report has been considered to the extent that these were available at the time of compilation (see Version number and Revision date).

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Abbreviations and acronyms: ADN
Accord européen relatif au international transport des marchandises Dangereuses par voie de
Navigation intérieure
ADR Accord européen relatif au international transport des merchandises Dangereuses par
Route
ANSI American National Standards Institute
ASTM American Society of Testing and Materials (US)
ATE Acute Toxic Estimate
AwSv Regulation regarding the storage of substances
BCF Bioconcentration Factor
CAS Chemical Abstract Service
CLP Regulation on Classification, Labeling and Packaging of Substances and Mixtures
CMR Cancerogenic Mutagenic Reprotoxic
DIN German Institute for Standards
DNEL Derived No-Effect Level
EC…Effect Concentration…%
EWC European Waste Catalogue
IATA International Air Transport Association
IBC Intermediate Bulk Container

		ICAO International Civil Aviation Organization IMDG International Maritime Dangerous Goods IMO International Maritime Organization ISO International Organization for Standardization IUPAC International Union of Pure and Applied Chemistry LOAEL Lowest Observable Adverse Effect Level LC… Lethal Concentration, ...% LD… Lethal Dose, ...% MARPOL International Convention for the Prevention of Pollution From Ships NOAEL No Observed Adverse Effect Level NOEL/NOEC No Observed Effect Level/ Concentration OECD Organization for Economic Co- operation and Development PBT persistent, bioaccumulative, toxic PNEC Predicted No-Effect Concentration REACH Registration, Evaluation, Authorization and Restriction of Chemicals RID Règlement concernant le transport International Ferroviaires Dangereuses STOT Specific Target Organ Toxicity TRGS Technical Regulations for Gefahrstoffe vPvB very Persistent, very Bioaccumulative WGK Wassergefährdungsklasse