

A Component, PU 5250 ZG


Safety Data Sheet

pursuant to Regulation (EC) No 453/2010

Publication date: 18/04/2024

Revision date: 18/04/2024

Version: 1.0

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, A 5250 ZG Product group: EP 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)557850749 info@dutchresingroup.nl	Visiting address Gladsaxe 19 Apeldoorn		
1.4	Emergency number: T +31 (0)557850749 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 Acute toxicity, Inhalation, Category 3 (H331) Skin sensitization, Category 1 (H317) Specific target organ toxicity (single exposure), (H335) Category 3			
2.2	Adverse physico-chemical, health and environmental effects			
	 GHS06 Danger Hazardous ingredients that must be listed on the label: Hexamethylene diisocyanate, oligomerisation product (type uretdione) EC No.: 500-060-2			

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		<p>Hazard statements:</p> <p>H317 May cause an allergic skin reaction. H331 Toxic by inhalation. H335 May cause respiratory irritation.</p> <p>Precautions: P261 Avoid inhalation of dust/fumes/gas/mist/vapour/spray. P280 Wear protective gloves. P304 + P340 + P311 AFTER INHALATION: Move the person to fresh air and ensure they can breathe easily. Consult a POISON CENTER/doctor. P333 + P313 If skin irritation or rash occurs: consult a doctor. P362 + P364 Remove and wash contaminated clothing before reuse.</p> <p>P403 + P233 Store in a well-ventilated place. Store in a tightly closed container.</p> <p>Additional risk characteristics and labelling elements: as of 24 August 2023, appropriate training must be completed for industrial or professional use.</p>		
	2.3	Other dangers		
		<p>Handling of the product is advised against in case of hypersensitivity of the respiratory tract (asthma, chronic bronchitis). Respiratory symptoms may also occur several hours after prolonged exposure.</p> <p>Dust, fumes, and aerosols pose the greatest danger to the respiratory tract. 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.</p>		
SECTION 3: Composition and information on ingredients				
	3.1	Dust		
		Aliphatic polyisocyanate		
	3.2	Mixture of hazardous and non-hazardous substances		
		name	Product identification	% Classification in accordance with Regulation (EC) No 1272/2008 [CLP]
		Hexamethylenediisocyanate, REACH oligomerisation product registration number: (type uretdione)	(EC No.: 500-060-2 01-2119488177-26-0000 CAS No.: 28182-81-2	80-90% Acute Tox. 3 Inhalative H331 Skin Sens. 1 H317 STOT SE 3 H335 (Respiratory system)
		hexamethylene diisocyanate	(Index no.: 615-011-00-1 REACH registration number: 01-2119457571-37-0000, 01-2119457571-37-0005, 01-2119457571-37-0006 CAS No.: 822-06-0	<0.3% Acute Tox. 4 Oral H302 Acute Tox. 1 Inhalative H330 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Resp. Sens. 1 H334 Skin Sens. 1 H317 STOT SE 3 H335 (Respiratory system) Specific Limit Concentrations (GHS)

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					Resp. Sens.1 H334 >= 0.5% Skin Sens. 1 H317 >= 0.5%
		Benzenesulfonyl Isocyanate, 4-methyl	(CAS No.) 4083-64-1 (EC No) 223-810-8 (EU Identification Number) 615-012-00-7 Reach registration number 01-2119980050-47	<2.5	Skin Irrit. 2;H315, Eye Irrit. 2;H319, Resp. Sens. 1;H334, STOT SE 3;H335
		Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	(CAS No.) 41556-26-7 (EC No.) 255-437-1	1-2	H303 H317 H411
		Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	(CAS No.) 82919-37-7 (EC No.) 280-060-4	1-2	H303 H317 H361 H411
		Harmless substances		5-15	
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			
		<p>General advice: Immediately remove, disinfect, and dispose of soiled or soaked clothing and shoes.</p> <p>In case of inhalation: Move person to fresh air, keep warm, allow to rest; medical assistance is required if breathing difficulties occur.</p> <p>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.</p> <p>In case of skin reactions, consult a doctor.</p> <p>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.</p> <p>If swallowed: DO NOT induce vomiting. Rinse mouth with water. Medical advice required.</p>			
	4.2	Symptoms/injuries			
		Notes for the doctor: First Aid, disinfection, symptomatic treatment.			
	4.3	Indication of the required immediate medical care and special treatment			
		No additional information available			
SECTION 5: Firefighting measures					
	5.1	Extinguishing equipment			
		<p>Suitable extinguishing agents: Foam. AFFF. Water mist.</p> <p>Unsuitable extinguishing agents: Do not use a strong water jet. Dry powder.</p>			
	5.2	Special hazards caused by the substance or mixture			
		<p>During a fire, carbon monoxide, carbon dioxide, nitrogen oxide, isocyanate vapors, and traces of hydrogen cyanide (prussic acid) are produced. Avoid inhaling smoke during fire and/or explosion.</p> <p>In the event of a fire in the immediate vicinity, there is an increase in pressure and a risk of bursting. Cool containers threatened by fire with water and, if possible, remove them from the danger zone.</p>			
	5.3	Advice for firefighters			
		For firefighting, respiratory protection with independent air supply and close			

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		<p>Close-fitting chemical protective suit required.</p> <p>Do not allow contaminated extinguishing water to penetrate the soil, groundwater, or surface water.</p> <p>Exercise extreme caution when fighting a chemical fire.</p>
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	
		<p>clothing (see section 8). Ensure adequate airflow and ventilation.</p> <p>Keep uninvolved persons at a distance.</p>
6.11 For	persons other than emergency services	
		<p>Protective equipment: Equip cleaning staff with appropriate protection.</p> <p>Emergency procedures: Keep spectators at a distance.</p>
6.12 For	the emergency services	
		No additional information available
6.2	Environmental precautions	
		Clean up spilled product as quickly as possible using an absorbent product. Do not allow it to flow into the sewer system or public waters.
6.3	Methods and material for containment and cleaning up For containment :	
		<p>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.</p> <p>The spilled area can be cleaned with the following recommended disinfection solutions:</p> <p>Disinfection solution 1: 8-10% sodium carbonate and 2% liquid soap in water Disinfection 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</p>
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 conditions of	
		<p>use are further specified in the annex in accordance with REACH Regulation (EC) No 1907/2006.</p> <p>Ensure adequate ventilation and/or extraction in the workplace.</p> <p>The air limit values stated 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.</p> <p>For products containing solvents: Protection against explosion required.</p> <p>The personal safety measures described in Paragraph 8 must be observed. The safety measures required when handling isocyanates must be observed. Absolutely avoid contact with the skin and eyes as well as inhalation of the vapors.</p> <p>Keep separate from food and beverages. Wash hands and use skin protection ointment before breaks and after finishing work. Keep work clothing separate.</p> <p>Remove contaminated clothing immediately.</p>
7.2	Conditions for safe storage,	

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	Store the packaging dry and tightly closed in a cool, well-ventilated place. Further storage information to ensure quality can be found in our technical product information sheet. German storage classification 6.1C: Flammable, acute toxicity Cat. 3 / toxic substances or (TRGS 510): substances causing chronic diseases.																																																	
7.3	Specific end-use																																																	
	A Component floor system																																																	
SECTION 8: Exposure control measures/personal protection																																																		
8.1	Control parameters																																																	
	<p>The product contains no ingredients for which exposure values have been established. Derived dose without effect (DNEL) Hexamethylene diisocyanate, oligomerization product (uretdione type)</p> <table border="1"> <thead> <tr> <th>Value type</th> <th>Exposure route</th> <th>Health consequences</th> <th>Value</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Employees</td> <td>Inhalation Long-term</td> <td>Local effects</td> <td>0.35 mg/m³</td> <td>Most sensitive endpoint: irritation (respiratory tract)</td> </tr> <tr> <td>Employees</td> <td>Inhalation Acute</td> <td>Local effects</td> <td>0.7 mg/m³</td> <td>Most sensitive endpoint: irritation (respiratory tract)</td> </tr> <tr> <td>Employees</td> <td>Dermal</td> <td>Long-term local effects</td> <td></td> <td>Non-quantitative risk assessment possible. Most sensitive endpoint: awareness-raising ()</td> </tr> <tr> <td>Employees</td> <td>Dermal</td> <td>Acute - local effects</td> <td></td> <td>No quantitative risk assessment possible. Most sensitive endpoint: sensitization (skin)</td> </tr> </tbody> </table> <p>Predicted no-effect concentrations (PNEC) Hexamethylene diisocyanate, oligomerization product (uretdione type)</p> <table border="1"> <thead> <tr> <th>Compartment</th> <th>Value</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Freshwater</td> <td>> 0.05 mg/l</td> <td></td> </tr> <tr> <td>Freshwater deposit</td> <td>> 1.33 mg/kg</td> <td>Dry weight</td> </tr> <tr> <td>Seawater</td> <td>> 0.005 mg/l</td> <td></td> </tr> <tr> <td>Marine deposit</td> <td>> 0.133 mg/kg</td> <td>Dry weight</td> </tr> <tr> <td>Sewage treatment installation</td> <td>55.6 mg/l</td> <td></td> </tr> <tr> <td>Soil</td> <td>> 0.066 mg/kg</td> <td>Dry weight</td> </tr> <tr> <td>Oral</td> <td></td> <td>Not relevant</td> </tr> </tbody> </table>	Value type	Exposure route	Health consequences	Value	Comments	Employees	Inhalation Long-term	Local effects	0.35 mg/m ³	Most sensitive endpoint: irritation (respiratory tract)	Employees	Inhalation Acute	Local effects	0.7 mg/m ³	Most sensitive endpoint: irritation (respiratory tract)	Employees	Dermal	Long-term local effects		Non-quantitative risk assessment possible. Most sensitive endpoint: awareness-raising ()	Employees	Dermal	Acute - local effects		No quantitative risk assessment possible. Most sensitive endpoint: sensitization (skin)	Compartment	Value	Comments	Freshwater	> 0.05 mg/l		Freshwater deposit	> 1.33 mg/kg	Dry weight	Seawater	> 0.005 mg/l		Marine deposit	> 0.133 mg/kg	Dry weight	Sewage treatment installation	55.6 mg/l		Soil	> 0.066 mg/kg	Dry weight	Oral		Not relevant
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8.2	Measures to control exposure Respiratory																																																															
	<p>protection Nose and mouth protection is required in the event of insufficient ventilation at the workplace and during injection molding. A fresh-air mask is recommended, or for short-term work, a combination filter A2-P2 (EN529).</p> <p>If applicable, you will find further recommendations on respiratory protection in the appendix.</p> <p>Handling of the product is advised against in case of respiratory hypersensitivity (asthma, chronic bronchitis). Hand protection Suitable material for safety gloves; EN 374: Butyl rubber - IIR: thickness $\geq 0.5\text{mm}$; Breakthrough time $\geq 480\text{min}$. Fluororubber - FKM: thickness $\geq 0.4\text{mm}$; Breakthrough time $\geq 480\text{min}$. Layered glove - PE/EVAL/PE; Breakthrough time $\geq 480\text{min}$. Recommendation: remove contaminated gloves.</p> <p>Eye protection. Wear eye/face protection.</p> <p>Skin and body protection. Wear suitable protective clothing.</p> <p>It is not recommended to use this product if you have hypersensitivity of the skin.</p>																																																															
SECTION 9: Physical and chemical properties																																																																
9.1	Information about basic physical and chemical properties																																																															
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9.2	Other information																																																															
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SECTION 10: Stability and reactivity																																																																
10.1	Reactivity																																																															
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10.2	Chemical stability																																																															
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	10.3 Possible dangerous reactions
	Exothermic reaction with amines and alcohols; gradual CO ₂ evolution with water, pressure increase in sealed containers; risk of bursting.
	10.4 Conditions to be avoided
	Extremely high or low temperatures. Protect from direct sunlight.
	10.5 Chemically interacting materials
	strong acids. Strong alkalis
	10.6 Dangerous decomposition products
	No hazardous decomposition products with professional storage and handling.
SECTION 11: Toxicological information	
11.1	Information about toxicological effects
	<p>oral</p> <p>Hexamethylene diisocyanate, oligomerization product (uretdione type) LD50 Rat, male/female: > 5,665 mg/kg Method: OECD 401 Guideline test Acute toxicity, dermal Hexamethylene diisocyanate, oligomerization product (uretdione type) LD50 Rat, male/female: > 2,000 mg/kg Method: OECD 402 Test Guideline. Studies of a comparable product. Acute toxicity, inhalation Hexamethylene diisocyanate, oligomerization product (uretdione type) LC50 Rat, male/female: 0.158 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.</p> <p>Converted acute toxicity estimate 0.5 mg/l Test atmosphere: dust/mist Method: Expert judgment Assessment: Toxic by inhalation. Primary skin irritant effect Hexamethylene diisocyanate, oligomerization product (uretdione type) Species: Rabbit Result: Mildly irritating Classification: No skin irritation Method: Guideline test OECD 404 Acute mucosal irritation Hexamethylene diisocyanate, oligomerization product (uretdione type) Species: Rabbit Result: Mildly irritating Classification: No eye irritation Method: OECD 405 Guideline test Sensitization Hexamethylene diisocyanate, oligomerization product (uretdione type) Magnusson/Kligmann skin hypersensitivity (maximization test): Species: Guinea pig Result: positive</p>

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Classification: May cause sensitization by contact with skin.

Method: Guideline test OECD 406

Respiratory sensitization

Classification: No classification as a respiratory sensitizer under Regulation 2006/121/EC or 1999/45/EC.

No hypersensitivity reaction of the lungs in animal experiments.

No pulmonary sensitizing potential could be established in guinea pigs with hexamethylenediisocyanate-based polyisocyanate after either intradermal or inhalation induction.

Subacute, subchronic and long-term toxicity Hexamethylene diisocyanate, oligomerization product (uretdione type)

NOAEL: 0.41 mg/m³ air Method

of application: Inhalation Species: Rat, male/

female Dose levels: 0.41 - 2.2 - 10.15

mg/m³

Duration of exposure: 28 days

Frequency of treatment: 6 hours per day, 5 days per week Method: OECD

Test Guideline 412 There is no evidence of tissue damage other than to the respiratory organs.

Carcinogenicity Hexamethylene

diisocyanate, oligomerisation product (type uretdione) No data available.

Reproductive toxicity/fertility Hexamethylene

diisocyanate, oligomerization product (uretdione type) Available data show no indication of reproductive toxicity.

Reproductive toxicity/developmental toxicity/Teratogenicity Hexamethylene diisocyanate, oligomerization product (uretdione type)

Experiments with animals with structurally similar compositions show no indication of specific reproductive toxicity.

Genotoxicity in vitro

Hexamethylene diisocyanate, oligomerization product (uretdione type)

Test type: Salmonella/microsome test (Ames test)

Metabolic activation: with/without Result: No

indications of mutagenic influence.

Method: OECD Test Guideline 471 Test

type: Point mutation in mammalian cells (HPRT test)

Metabolic activation: with/without Result:

positive Method: OECD

Test Guideline 476 Test type: In vitro test

for chromosomal abnormalities Test system: Chinese hamster

cell line V79 Metabolic activation: with/without Result:

positive Method: OECD Test Guideline 473 In

vivo genotoxicity

Hexamethylene diisocyanate, oligomerization product (uretdione type)

Test type: In vivo micronucleus assay Species:

Mouse, male Method

of application: Inhalation Exposure duration:

6 h Dose: 0 - 7 - 25 - 50 mg/

m³

Cell type: Bone marrow

Method: OECD Test Guideline 474 Test

substance: as aerosol

Showed no mutagenic effects in animal experiments.

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	<p>Test type: Unplanned DNA synthesis (UDS) Species: Rat, male Method of application: Inhalation Duration of exposure: 3 h Dose: 0 - 50 - 140 mg/m³ Cell type: Liver cells Method: OECD test guideline 486 Test substance: as aerosol</p> <p>Showed no mutagenic effects in animal studies. STOT assessment – single exposure Hexamethylene diisocyanate, oligomerisation product (uretdione type) May cause respiratory irritation. SOT assessment – repeated exposure Hexamethylene diisocyanate, oligomerization product (uretdione type) Based on available data; the classification criteria have not been met. Aspiration toxicity Hexamethylene diisocyanate, oligomerization product (uretdione type) Based on available data; the classification criteria have not been met. CMR assessment Hexamethylene diisocyanate, oligomerization product (uretdione type) Carcinogenicity: Based on available data; the classification criteria have not been met. Mutagenicity: In vitro tests have yielded inconsistent results. In vivo tests have shown no mutagenic effects. Based on available data; the classification criteria have not been met.</p> <p>Teratogenicity: Based on available data; the classification criteria have not been met. Reproductive toxicity/fertility: Based on available data; classification criteria have not been met.</p> <p>Toxicology Assessment Hexamethylene diisocyanate, oligomerization product (uretdione type) Acute effects: Toxic by inhalation.</p> <p>Sensitization: May cause hypersensitivity by contact with skin.</p>
	11.2 Information about other hazards
	<p>Other information Special properties/reactions: In case of excessive exposure - particularly during spraying of isocyanate-containing paints without protective measures - Depending on the concentration, there is a risk that irritation of the eyes, nose, throat, and airways may occur. Delayed onset of these symptoms and the development of hypersensitivity (breathing difficulties, cough, asthma) is possible. Hypersensitive individuals may experience reactions even at low concentrations of isocyanate, even if the concentration is below the occupational exposure limit. Tanning and irritation effects are possible with prolonged contact with the skin.</p> <p>Animal studies and other research indicate that skin contact with diisocyanates could play a role in respiratory reactions and hypersensitivity to isocyanates.</p>
SECTION 12: Ecological information	
	<p>Do not allow to penetrate surface water, wastewater, or soil. Below is the data available to us: Ecology - water</p>
	12.1
	<p>Acute toxicity to fish Hexamethylene diisocyanate, oligomerization product (uretdione type) LC50 > 100 mg/l Species: Danio rerio (zebra fish) Exposure duration: 96 h</p>

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	<p>Method: Directive 67/548/EEC, Annex V, C.1. Sample preparation based on the reactivity of the substance with water: Ultra Turrax: 60 sec. 8000 rpm; 24h magnetic stirrer; filtration. Acute daphnia toxicity Hexamethylene diisocyanate, oligomerization product (uretdione type) EC50 > 100 mg/l Species: Daphnia magna (Water flea) Exposure duration: 48 h Method: Directive 67/548/EEC, Annex V, C.2. Sample preparation based on the reactivity of the substance with water: Ultra Turrax: 60 sec. 8000 rpm; 24h magnetic stirrer; filtration. Acute algal toxicity Hexamethylene diisocyanate, oligomerization product (uretdione type) ErC50 > 50 - < 100 mg/l Test type: Growth inhibitor Species: scenedesmus subspicatus. Exposure duration: 72 h Method: Directive 67/548/EEC, Annex V, C.3. Sample preparation based on the reactivity of the substance with water: Ultra Turrax: 60 sec. 8000 rpm; 24h magnetic stirrer; filtration. Acute bacterial toxicity Hexamethylene diisocyanate, oligomerization product (uretdione type) EC50 5,560 mg/l Test type: Respiratory inhibition Type: activated sludge. Method: OECD test guideline 209 Ecotoxicology Assessment Hexamethylene diisocyanate, oligomerisation product (uretdione type) (Acute) Short-term aquatic hazard: Harmful to aquatic life. (Chronic) Long-term aquatic hazard: Based on available data; classification criteria have not been met.</p> <p>Impact on Wastewater Treatment: In biological treatment plants, there is no risk of impairment of purification capacity due to low bacterial toxicity.</p>
12.2 Persistence and degradability	
	<p>Hexamethylene diisocyanate, oligomerization product (uretdione type) Test type: aerobic Inoculum: activated sludge. Biodegradation: 1%, 21 d, i.e. not easily degradable Method: Directive 67/548/EEC, Annex V, C.4.E.</p> <p>Test type: aerobic Inoculum: activated sludge. Biodegradation: 18%, 28 d, i.e. not potentially degradable Method: OECD test guideline 302 C Stability in water Hexamethylene diisocyanate, oligomerization product (uretdione type) Test type: Hydrolysis Half-life: 6.1 h at 23 °C The substance hydrolyzes rapidly in water Photodegradation Hexamethylene diisocyanate, oligomerization product (uretdione type) Test type: Phototransformation in air Temperature: 25 °C Sensitizer: OH radicals Concentration of the sensitizer: 500,000 1/cm³ Indirect photolysis half-life: 0.64 h Method: SRC - AOP (calculation)</p>

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	<p>When the product is released or exposed to air, it will be rapidly broken down by photochemical processes.</p> <p>Test type: Phototransformation in air Temperature: 25 °C Sensitizer: OH radicals Concentration of the sensitizer: 500,000 1/cm³ Indirect photolysis half-life: 0.19 h Method: SRC - AOP (calculation)</p> <p>When the product is released or exposed to air, it will be rapidly broken down by photochemical processes.</p> <p>Investigation of hydrolysis products. Volatility (Henry constant) Hexamethylene diisocyanate, oligomerization product (uretdione type) Calculated value = < 0.000002 Pa*m³/mol at 25 °C Method: Bond method The substance must be classified as non-volatile in water.</p>
	12.3 Bioaccumulation:
	<p>Hexamethylene diisocyanate, oligomerization product (uretdione type) Bioconcentration factor (BCF): 788 Method: (calculated) An increase in aquatic organisms is not to be expected. Bioconcentration factor (BCF): 159 Method: (calculated) No growth of aquatic organisms is to be expected. Investigations of hydrolysis products. Partition coefficient (n-octanol/water) log Pow: approximately 6.62 (Value calculated)</p>
	12.4 Mobility in the soil
	<p>Hexamethylene diisocyanate, oligomerization product (uretdione type) Adsorption/soil Not applicable Surface tension approx. 44.9 mN/m at 25 °C Method: DIN EN 14370 Distribution in the environment Hexamethylene diisocyanate, oligomerization product (uretdione type) Not applicable</p>
	12.5 Results of PBT and zPzB assessment
	<p>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.</p>
	12.6 Other harmful effects
	<p>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.</p>
SECTION 13 Disposal instructions	
	13.1 Waste processing methods
	<p>Recommendations for waste disposal: Dispose of safely in accordance with local/national regulations.</p> <p>Prevent release into the environment. After the final product withdrawal, product residues must be removed from the packaging (drip-free, powder-free, paste-free). The empty packaging can be delivered to a professional waste disposal company; in the EU, this is done via the point of sale of the existing take-back systems of the chemical industry. For this, the labelling must</p>

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	<p>the product and the hazardous substance remain on the packaging. Alternatively, after the product residues adhering to the walls have been rendered harmless, the labelling of the product and hazardous substances may be invalidated. These packages can also be returned for recycling at the points of sale of the existing take-back systems of the chemical industry. Reuse or recycling must be carried out in accordance with national laws and regulations and environmental protection measures. No discharge via wastewater.</p>
SECTION 14: Information regarding transport	
	Land transport (ADR / RID / GGVSEB)
14.1 UN number:	Non-hazardous goods
14.2 Proper shipping name in accordance with the UN Model Regulations:	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:	Non-hazardous goods
14.6 Special precautions for the user:	sections 6 - 8. Further instructions: No dangerous goods to transport. Protect from moisture. Heat sensitive from +50 °C. Keep separate from food and beverages
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
	<p>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, 74 This product contains substances subject to EU Directive 1907/2006 (REACH), Annex XVII.</p> <p>hexamethylene diisocyanate CAS No.: 822-06-0 Subject to REACH Annex XVII, No. 74</p>

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		<p>Water pollution class (Germany) 1 mildly polluting Classification according to AwSV, Annex 1 (5.2)</p> <p>All existing national regulations for the handling of isocyanates and hazardous substances must be observed. For products containing solvents: All existing national regulations regarding the handling of solvents must be observed.</p> <p>Other regulations of the European Commission for the Association of Paint and Printing Ink Manufacturers - CEPE - The following information is provided for dyes containing isocyanate: Ready-to-use dyes containing isocyanates can cause irritation of the mucous membranes – in particular, irritate the respiratory tract and trigger hypersensitivity reactions. There is a risk of sensitization upon inhalation of vapors or spray mist. When handling isocyanate-containing dyes, all measures applicable to solvent-based dyes must be carefully observed. In particular, spray mists and vapors must not be inhaled. Allergic, asthmatic, and persons susceptible to respiratory diseases must not perform work with isocyanate-containing dyes.</p> <p>Take into account Directive 94/33/EC on the protection of young people at work or stricter national legislation, where applicable.</p>
15.2	Chemical safety assessment	
		<p>Chemical safety assessment has been performed for: Hexamethylene diisocyanate, oligomerization product (uretdione type)</p>
SECTION 16: Other information		
		<p>Full text of hazard statements (H-phrases) according to sections 2, 3 and 10 of the CLP classification (1272/2008/EC). H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H330 Fatal if inhaled. H331 Toxic by inhalation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled cause. H335 May cause respiratory irritation.</p> <p>Handling coating materials or adhesives containing reactive polyisocyanates and a monomeric isocyanate residue 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 DIY use.</p> <p>You can find more information about safely handling aliphatic isocyanates on the ALIPA website: ALIPA Safeguard - We care that you care (www.alipa.org).</p> <p>Abbreviations and acronyms ADN Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation interior</p>

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ADR Accord européen relatif au transport international des marchandises Dangereuses
par Route

ANSI American National Standards Institute ASTM American

Society of Testing and Materials (US)

ATE Acute Toxic Estimate AwSv

Verordnung über Anlagen zugang mit wassergefährdenden Substances BCF Bioconcentration Factor

CAS Chemical Abstract Service CLP

Regulation on Classification, Labeling and

Packaging of Substances and Mixtures CMR Cancerogenic Mutagenic Reprotoxic DIN Deutsches Institut für Normung

DNEL Derived No-Effect Level EC... Effect Concentration ...

% EWC European Waste Catalog 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

Standardisation NOEL/NOEC No Observed Effect Level/

Concentration OECD PBT PNEC REACH RID

Organization for Economic Co-operation and Development persistent,
bioaccumulative, toxic
Predicted No-Effect Concentration

Registration, Evaluation, Authorization and Restriction of Chemicals

International Ferroviaire Merchandise Transport Regulations

Dangerous women

STOT Specific Target Organ Toxicity

TRGS Technical Rules for Gefahrstoffe vPvB very

Persistent, very Bioaccumulative

WGK Wassergefährdungsklasse

Relevant changes since the previous edition are marked in the margin. This version replaces all previous editions.

Further information

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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sheet was obtained from sources that are, to the best of our knowledge, reliable.

However, the information was provided without any guarantee—directly implied—as to its correctness. The conditions or methods of handling, storage, use, or finishing of the product are beyond our control and influence and may also be beyond our knowledge. For these and other reasons, we accept no liability whatsoever, while liability for losses, damage, or expenses that may arise in any way from the

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		handling, storage, use, or finishing and disposal of the product.
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