according to Regulation (EC) No 1907/2006 (REACH) as amended

TELHARD PUR

Creation date	13th April 2015		
Revision date	04th January 2022	Version	3.0

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

1.1. Product identifier — TELHARD PUR

Substance / mixture: mixture

UFI: 0QUV-J060-S00E-D5KY

Other mixture names

HARDENER FOR POLYURETHANE PAINTS TELPUR

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

Mixture's intended use

Hardener for two-component polyurethane paints.

Main intended use

PC-PNT-OTH Other paints and coating materials

Mixture uses advised against

The product should not be used in ways other then those referred in Section 1. For professional use only.
Exposure scenario is attached to the Safety Data Sheet.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Name or trade name	BARVY A LAKY TELURIA,s.r.o.
Address	č.p.1, Skrchov, 679 61 Czech Republic
Identification number (CRN)	43420371
VAT Reg No	CZ43420371
Phone	+420 516 474 211
E-mail	tel@teluria.cz
Web address	http://www.bal.cz

Competent person responsible for the safety data sheet

Name	BARVY A LAKY TELURIA, s.r.o.
E-mail	tel@teluria.cz

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Flam. Liq. 3, H226
Skin Irrit. 2, H315
Skin Sens. 1, H317
Eye Irrit. 2, H319
Acute Tox. 4, H332
STOT SE 3, H335
STOT RE 2, H373

Full text of all classifications and hazard statements is given in the section 16.

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Most serious adverse physico-chemical effects

Flammable liquid and vapour.

Most serious adverse effects on human health and the environment

May cause an allergic skin reaction. May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure. Harmful if inhaled.

2.2. Label elements

Hazard pictogram

Signal word

Warning

Hazardous substances

hexamethylene diisocyanate, oligomers
xylene (mixture of isomers and ethylbenzene)
hexamethylene-di-isocyanate

Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P280	Wear protective gloves/protective clothing/eye protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Supplemental information

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

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TELHARD PUR

Creation date	13th April 2015		
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Solution of aliphatic polyisocyanate in organic solvents.
The mixture contains a reaction mixture of o, m, p-xylene and ethylbenzene (ethylbenzene content <26%).

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 28182-81-2 EC: 500-060-2 Registration number: 01-2119485796-17	hexamethylene diisocyanate, oligomers	75	Skin Sens. 1, H317 Acute Tox. 4, H332 STOT SE 3, H335	
EC: 905-562-9 Registration number: 01-2119555267-33	xylene (mixture of isomers and ethylbenzene)	10-12,5	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Acute Tox. 4, H312+H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Specific concentration limit: Acute Tox. 4, H312+H332: C ≥ 12,5 %	1, 3
Index: 607-195-00-7 CAS: 108-65-6 EC: 203-603-9 Registration number: 01-2119475791-29	2-methoxy-1-methylethyl acetate	10-12,5	Flam. Liq. 3, H226	3
Index: 615-011-00-1 CAS: 822-06-0 EC: 212-485-8 Registration number: 01-2119457571-37	hexamethylene-di-isocyanate	0,2-0,5	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 3, H331 Resp. Sens. 1, H334 STOT SE 3, H335 Specific concentration limit: Resp. Sens. 1, H334: C ≥ 0,5 % Skin Sens. 1, H317: C ≥ 0,5 %	2, 4

Notes

1 Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

2 Note 2: The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture.

3 Substance with a Union workplace exposure limit.

4 The use of the substance is restricted by Annex XVII of REACH Regulation

Full text of all classifications and hazard statements is given in the section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

If on skin

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists. Rinse skin with water or shower.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible.

If swallowed

Provide medical treatment. DO NOT INDUCE VOMITING!

4.2. Most important symptoms and effects, both acute and delayed

If inhaled

Cough, headache. May cause respiratory irritation.

If on skin

May cause an allergic skin reaction.

If in eyes

Causes serious eye irritation.

If swallowed

Irritation, nausea.

4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment. If you see a doctor, take this safety data sheet with you.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For workers apart from emergency teams: Avoid inhalation of vapour, prevent skin and eye contact. Wear appropriate protective clothing and gloves. Wear eye protection and face shield if necessary. Use suitable respiratory protection. In closed spaces, ensure fresh air supply. Eliminate all ignition sources. No smoking and no open fire. Keep unnecessary personnel away.

For members of emergency teams: Use appropriate personal protective equipment – protective clothing with antistatic finish and impermeable work shoes. Treat unprotected skin with barrier cream. Anti-chemical protective gloves. For short-time exposure or low concentration, use respirator with organic vapour and dust filter (protection level A/P2); for high concentration and long-term exposure, self-contained respirator is necessary.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water. If possible prevent leakage, close container and place damaged container in protective container.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

7.1.1. General health measures

Use the product after due familiarization with its hazard characteristics and proper training or training in its safe use. Do not eat, drink, smoke on the site. Wash your hands and other contaminated parts of body by soap and water before eating and after the use of product is finished. Abide by requirements on personal hygiene when working with hazardous chemical products.

Use technical equipment on the site to control human and environment exposure. Regularly inspect the equipment, ensure cleaning, timely maintenance and permanent functionality. When working, use the recommended personal protective equipment listed in 8.2 of the Safety Data Sheet and in Annex to the Safety Data Sheet. Keep the protective clothing and protective equipment sound and clean. Immediately replace the damaged protective aids for sound ones. Keep the site, tools and aids clean and in sound state. On the site, keep the product in labelled containers or tanks. Store product waste and wastes contaminated by the product in suitable and properly labelled vessels located on designated marked and protected places. Ensure long-term storing of wastes containing the product outside the site.

7.1.2. Fire precautions

When using the product, prevent potential ignition or explosion of the mixture of product vapour and air caused by contact with open flame, sparks, extremely hot surfaces, electrostatic discharges. Do not smoke on the site, use non-sparking tools. Places with increased occurrence of the vapour-air mixture need to be ventilated to prevent formation of explosive mixtures. Solvent vapours are heavier than air. The site should be protected from electrostatic discharges.

7.1.3. Environmental precautions

Handle the product on a site technically adapted to avoid accidental leakage to sewerage systems, water or soil. Product waste and wastes contaminated by the product to be disposed of as hazardous waste. Waste water contaminated by the product may only be discharged to water reservoirs after the product components are properly removed in a waste water treatment plant or in other appropriate treatment plant able to remove drifted product components from water. Do not pour the product to waste water. Emissions of solvent from point sources are subjected to control requirements acc. to air protection regulations.

7.2. Conditions for safe storage, including any incompatibilities

Store the product in properly marked, closed containers in well ventilated spaces at 5 – 25 °C. The storages must meet the requirements on storing of flammable liquids and substances hazardous for aquatic life and soil. Protect from heat, hot surfaces, sparks, open flame and other ignition sources. No smoking. Store away from oxidising substances and strong acids. Do not store with food, drinks, feed material, medicines. Storages should be protected from static electricity. First aid kit and water suitable for eye rinsing should be available. Keep away from products that are corrosive to metals (eg acids or pool chemicals).

Storage class	3A - Flammable liquids (flash point below 55 °C)
Storage temperature	min 5 °C, max 25 °C

The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

7.3. Specific end use(s)

Use in coating compositions was assessed for substances of mixture xylenes and 2-methoxy-1- methyl ethyl-acetate. Conditions of safe use of the registered coating composition components specified in exposure scenarios to SDSs of the components are incorporated to this Safety Data Sheet and its Annex.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union **Commission Directive 2000/39/EC**

Substance name (component)	Type	Value	Note
xylenes	OEL 8 hours	221 mg/m³	Skin

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European Union **Commission Directive 2000/39/EC**

Substance name (component)	Type	Value	Note
xylenes	OEL 8 hours	50 ppm	Skin
	OEL 15 minutes	442 mg/m³	
	OEL 15 minutes	100 ppm	
2-methoxy-1-methylethyl acetate (CAS: 108-65-6)	OEL 8 hours	275 mg/m³	Skin
	OEL 8 hours	50 ppm	
	OEL 15 minutes	550 mg/m³	
	OEL 15 minutes	100 ppm	

DNEL

2-methoxy-1-methylethyl acetate

Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
Workers	Inhalation	275 mg/m³	Systemic chronic effects		
Workers	Inhalation	550 mg/m³	Local acute effects		
Workers	Dermal	796 mg/kg bw/day	Systemic chronic effects		
Consumers	Inhalation	33 mg/m³	Systemic chronic effects		
Consumers	Inhalation	33 mg/m³	Systemic acute effects		
Consumers	Dermal	320 mg/kg bw/day	Systemic chronic effects		
Consumers	Oral	36 mg/kg bw/day	Systemic chronic effects		

hexamethylene-di-isocyanate

Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
Workers	Inhalation	0.035 mg/m³	Local chronic effects		
Workers	Inhalation	0.07 mg/m³	Local acute effects		

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xylene (mixture of isomers and ethylbenzene)

Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
Workers	Inhalation	77 mg/m³	Systemic chronic effects		
Workers	Inhalation	289 mg/m³	Systemic acute effects		
Workers	Inhalation	289 mg/m³	Local acute effects		
Workers	Dermal	180 mg/kg bw/day	Systemic chronic effects		
Consumers	Inhalation	14.8 mg/m³	Systemic chronic effects		
Consumers	Inhalation	174 mg/m³	Systemic acute effects		
Consumers	Inhalation	174 mg/m³	Local acute effects		
Consumers	Dermal	108 mg/kg bw/day	Systemic chronic effects		
Consumers	Oral	1.6 mg/kg bw/day	Systemic chronic effects		

PNEC

2-methoxy-1-methylethyl acetate

Route of exposure	Value	Value determination	Source
Freshwater environment	0.635 mg/l		
Seawater	0.0635 mg/l		
Water (intermittent release)	6.35 mg/l		
Microorganisms in wastewater treatment plants	100 mg/l		
Freshwater sediment	3.29 mg/kg of dry substance of sediment		
Sea sediments	0.329 mg/kg of dry substance of sediment		
Soil (agricultural)	0.29 mg/kg of dry substance of soil		

xylene (mixture of isomers and ethylbenzene)

Route of exposure	Value	Value determination	Source
Drinking water	0.327 mg/l		
Seawater	0.327 mg/l		
Water (intermittent release)	0.327 mg/l		
Microorganisms in wastewater treatment plants	6.58 mg/l		
Freshwater sediment	12.46 mg/kg of dry substance of sediment		
Sea sediments	12.46 mg/kg of dry substance of sediment		

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xylene (mixture of isomers and ethylbenzene)

Route of exposure	Value	Value determination	Source
Soil (agricultural)	2.31 mg/kg of dry substance of soil		

8.2. Exposure controls

Conditions of safe use of the registered product composition components specified in exposure scenarios to Safety Data Sheets of the components are given in Annex of the SDS, including the required additional measures restricting the exposure – see the exposure scenarios for the intended uses of the product.
General safety and hygienic measures. When working, do not eat, drink, smoke. Before the break and after the work, hands should be washed with soap and hot water, treated with barrier cream. Overall and local ventilation, effective extraction.

Eye/face protection

Protective goggles (closed eye protection) resistant to organic solvent or face shield.

Skin protection

Skin protection: Protective clothes with antistatic finish, protective shoes; treat unprotected skin with barrier cream.
Hand protection: Chemical resistant protective gloves (EN 374-1:2003). Suitable material – fluoroelastomere (0.4 mm), butyl rubber (0.7 mm) and others, time of penetration corresponding to > 480 minutes. The time of penetration specified by the manufacturer should be followed and the glove replaced after expiration. If damaged, the gloves should be replaced immediately.

Respiratory protection

Don´t breathe vapours. For short-time exposure or low concentration, use respirator with organic vapour and dust filter (protection level A/P2); for high concentration and long-term exposure, self-contained respirator is necessary.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2. Ensure that containers are properly closed during storage, handling and transport. Secure storage areas against possible leakage of product into the environment (sewerage, water, soil - see 6.2). Do not flush product into drains or watercourses.

More information

Exposure scenario is attached to the Safety Data Sheet.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	typical aromatic
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	data not available
Flammability	Flammable liquid and vapour.
Lower and upper explosion limit	data not available
Flash point	38 °C (EN ISO 2719)
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	non-soluble (in water)
Kinematic viscosity	>20,5 mm²/s at 40 °C
Solubility in water	data not available
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available

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	Density and/or relative density	
	Density	1,07 g/cm³ at 23 °C (EN ISO 2811-1)
9.2.	**Other information**	
	Oxidising properties	The product has no oxidizing properties.
	Content of organic solvents (VOC)	0,25 kg/kg
	Total organic carbon (TOC)	0,17 kg/kg

SECTION 10: Stability and reactivity

10.1. Reactivity

When used in the standard way, there is not any dangerous reaction with other substances.

10.2. Chemical stability

The product is volatile and evaporates under standard temperature and pressure. It is stable when stored and handled under standard ambient conditions.

10.3. Possibility of hazardous reactions

xothermic reactions with amines and alcohols; with water gradual evolution of CO2, pressure increase in closed container; risk of rupture.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the mixture.

Acute toxicity

Harmful if inhaled.

2-methoxy-1-methylethyl acetate

Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD_{50}	>5000 mg/kg		Rat (Rattus norvegicus)	
Inhalation	LC_{50}	>23500 mg/m³	6 hour	Rat (Rattus norvegicus)	
Dermal	LD_{50}	>5000 mg/kg		Rabbit	

hexamethylene diisocyanate, oligomers

Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD_{50}	>5000 mg/kg		Rat (Rattus norvegicus)	
Inhalation	LC_{50}	0.554 mg/l	4 hour	Rat (Rattus norvegicus)	
Dermal	LD_{50}	>2000 mg/kg		Rabbit	

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hexamethylene-di-isocyanate

Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD_{50}	746 mg/kg		Rat (Rattus norvegicus)	
Inhalation	LC_{50}	124 mg/m³	4 hour	Rat (Rattus norvegicus)	
Dermal	LD_{50}	>7000 mg/kg		Rabbit	

xylene (mixture of isomers and ethylbenzene)

Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD_{50}	3523 mg/kg bw		Rat (Rattus norvegicus)	M
Inhalation	LC_{50}	6350-6700 ppm	4 hour	Rat (Rattus norvegicus)	
Dermal	LD_{50}	>5000 mg/kg		Rabbit	
Oral	LD_{50}	>4000 mg/kg bw		Rat (Rattus norvegicus)	F
	ATE	1100 mg/kg		Rabbit	

Skin corrosion/irritation
Causes skin irritation.
Serious eye damage/irritation
Causes serious eye irritation.
Respiratory or skin sensitisation
May cause an allergic skin reaction.
Germ cell mutagenicity
Based on available data the classification criteria are not met.
Carcinogenicity
Based on available data the classification criteria are not met.
Reproductive toxicity
Based on available data the classification criteria are not met.
Toxicity for specific target organ - single exposure
May cause respiratory irritation.
Toxicity for specific target organ - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard
Based on available data the classification criteria are not met.

11.2. Information on other hazards
not available

SECTION 12: Ecological information

12.1. Toxicity

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Acute toxicity

The complete mixture has not been tested. The classification is based on the calculation method. Information on toxic effects are based on the effects of the substances, the data are taken from the safety data sheets of raw materials. The mixture is not classified as dangerous for the environment. The mixture is a source of volatile organic emissions. Avoid release to the environment.

2-methoxy-1-methylethyl acetate

Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}		134 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	
EC_{50}		408 mg/l	48 hour	Daphnia (Daphnia magna)	
ErC_{50}		>1000 mg/l	96 hour	Algae and other aquatic plants	

hexamethylene diisocyanate, oligomers

Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}		>100 mg/l	96 hour	Fishes (Dani rerio)	
EC_{50}		>100 mg/l	48 hour	Daphnia (Daphnia magna)	
ErC_{50}		>100 mg/l	72 hour	Algae (Scenedesmus subspicatus)	
EC_{50}	OECD 209	>100 mg/l	3 hour	Bacteria	Activated sludge

hexamethylene-di-isocyanate

Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}		>83 mg/l	96 hour	Fishes (Danio rerio)	
EC_{50}		>89 mg/l	48 hour	Daphnia (Daphnia magna)	
EC_{50}		>77 mg/l	72 hour	Algae (Scenedesmus subspicatus)	

xylene (mixture of isomers and ethylbenzene)

Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}		2.6 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	
IC_{50}		1 mg/l	24 hour	Daphnia (Daphnia magna)	
EC_{50}		4.36 mg/l	73 hour	Algae (Pseudokirchneriella subcapitata)	

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Chronic toxicity

xylene (mixture of isomers and ethylbenzene)

Parameter	Value	Exposure time	Species	Environment
NOEC	>1.3 mg/l	56 day	Fishes (Oncorhynchus mykiss)	
NOEC	0.96-1.17 mg/l	7 day	Invertebrates (Ceriodaphnia dubia)	

12.2. Persistence and degradability

Biodegradability

hexamethylene diisocyanate, oligomers

Parameter	Value	Exposure time	Environment	Result
	1 %	28 day		Hardly biodegradable

Data for mixture not available.

12.3. Bioaccumulative potential

2-methoxy-1-methylethyl acetate

Parameter	Value	Exposure time	Species	Environment	Temperature [°C]
BCF	<100				
Log Pow	<3				

xylene (mixture of isomers and ethylbenzene)

Parameter	Value	Exposure time	Species	Environment	Temperature [°C]
BCF	6-23				
Log Pow	3.15-3.2				

Data for mixture not available.

12.4. Mobility in soil

2-methoxy-1-methylethyl acetate

Parameter	Value	Environment	Temperature
Koc	1.7		

xylene (mixture of isomers and ethylbenzene)

Parameter	Value	Environment	Temperature
Koc	48-540		

The mixture is a liquid insoluble in water, in case of leakage into environment, it may be dispersed over large distances and penetrate into underground water. It contains components with the potential of mobility in soil. When released into the soil may occur due to contamination of groundwater.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

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Volatile organic substances contained in the mixture have the potential to damage ozone layer. The isocyanate reacts with water at the interface to evolve CO2 and form a solid insoluble solid with a high melting point (polyurea). This reaction is strongly promoted by surfactants (eg liquid soaps) or water-soluble solvents. According to the experience presented so far, polyurea is inert and non-degradable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

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

Packaging waste type code

15 01 10 packaging containing residues of or contaminated by hazardous substances *

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number or ID number

UN 1866

14.2. UN proper shipping name

RESIN SOLUTION

14.3. Transport hazard class(es)

3 Flammable liquids

14.4. Packing group

III - substances presenting low danger

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

Reference in the Sections 4 to 8. The product is transported in ordinary and covered means of transport, protected against the weather, shocks and falls.

14.7. Maritime transport in bulk according to IMO instruments

Not classified.

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Additional information

Hazard identification No.	**30**
UN number	**1866**
Classification code	F1
Safety signs	3

Marine transport - IMDG

EmS (emergency plan)	F-E, S-E
MFAG	300

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 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th 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, as amended.

Restrictions pursuant to Annex XVII of Regulation (EC) No. 1907/2006 (REACH), as amended

hexamethylene-di-isocyanate

Restriction	Conditions of restriction
74	1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless: (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture (s). 2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless: (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use". 3. For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks. 4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence

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hexamethylene-di-isocyanate

Restriction	Conditions of restriction
	acquired by relevant vocational training. That training shall cover as a minimum: (a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s). (b) the training elements in points (a) and (b) of paragraph 5 for the following uses: — handling open mixtures at ambient temperature (including foam tunnels); — spraying in a ventilated booth; — application by roller; — application by brush; — application by dipping and pouring; — mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore; — cleaning and waste; — any other uses with similar exposure through the dermal and/or inhalation route; (c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses: — handling incompletely cured articles (e.g. freshly cured, still warm); — foundry applications; — maintenance and repair that needs access to equipment; — open handling of warm or hot formulations (> 45 °C); — spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers); — and any other uses with similar exposure through the dermal and/or inhalation route. 5. Training elements: (a) general training, including on-line training, on: — chemistry of diisocyanates; — toxicity hazards (including acute toxicity); — exposure to diisocyanates; — occupational exposure limit values; — how sensitisation can develop; — odour as indication of hazard; — importance of volatility for risk; — viscosity, temperature, and molecular weight of diisocyanates; — personal hygiene; — personal protective equipment needed, including practical instructions for its correct use and its limitations; — risk of dermal contact and inhalation exposure; — risk in relation to application process used; — skin and inhalation protection scheme; — ventilation; — cleaning, leakages, maintenance; — discarding empty packaging; — protection of bystanders; — identification of critical handling stages; — specific national code systems (if applicable); — behaviour-based safety; — certification or documented proof that training has been successfully completed (b) intermediate level training, including on-line training, on: — additional behaviour-based aspects; — maintenance; — management of change; — evaluation of existing safety instructions; — risk in relation to application process used; — certification or documented proof that training has been successfully completed (c) advanced training, including on-line training, on: — any additional certification needed for the specific uses covered;

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hexamethylene-di-isocyanate

Restriction	Conditions of restriction
	— spraying outside a spraying booth; — open handling of hot or warm formulations (> 45 °C); — certification or documented proof that training has been successfully completed 6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met. 7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design. 8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years. 9. Member States shall include in their reports pursuant to Article 117(1) the following information: (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law; (b)the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates; (c) national exposure limits for diisocyanates, if there are any; (d) information about enforcement activities related to this restriction. 10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

15.2. Chemical safety assessment

Chemical safety assessment was carried out on mixture of xylenes and 2-methoxy-1- methylethyl-acetate. The respective exposure scenarios are incorporated in Annex of this Safety Data Sheet.

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H312+H332	Harmful in contact with skin or if inhaled.

Guidelines for safe handling used in the safety data sheet

P260	Do not breathe vapours.
P280	Wear protective gloves/protective clothing/eye protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC_{50}	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
ES	Identification code for each substance listed in EINECS
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC_{50}	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation

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Flam. Liq.	Flammable liquid
Resp. Sens.	Respiratory sensitization
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.
As from 24 August 2023 adequate training is required before industrial or professional use.

Recommended restrictions of use

The product is exclusively intended for use in installations authorised according to Directive 1999/13/EC where emission limiting measures provide alternative means of achieving at least equivalent VOC emission reductions.

Information about data sources used to compile the Safety Data Sheet

Commission Regulation (EU) 2020/878 of 18 June 2020. REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 3.0 replaces the SDS version from 5.10.2016. Overall revision of SDS according to Commission Regulation (EU) 2020/878.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.

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Annex to the Product Safety Data Sheet - EXPOSURE SCENARIO
RECOMMENDATION ON SAFE USE OF THE MIXTURE

1. Industrial use

Application sector	: SU 3
Chemical product category	: PC9a
Partial processes covered by exposure scenario	: PROC1, PROC2, PROC 3, PROC4, PROC5, PROC 7, PROC8a, PROC8b, PROC10, PROC13, PROC15
Environmental release	: ERC4, ERC5

Basic conditions to control the hazard for workers:

Duration of work activities	: Covers exposure up to 8 h/d (unless otherwise specified)
Concentration	: Work with the hardener, the hardened standard coating composition or coating composition thinned by solvents containing the same volatile components as the coating composition is anticipated.
Temperature	: Work at temperature up to 20 °C higher than site temperature is anticipated except for the coating composition's drying and hardening processes at increased temperature.
General risk management measures	: Wear protective working clothes. Wear protective gloves and eye protection if in danger of contact with the hardener and the hardened coating composition (see section 8.2. of the SDS). Basic training required.
	: Use respiratory protection if NPK or PEL values are exceeded (see section 8 of the SDS).
	: Abide by general principles of safe and hygienic work with chemical substances.
	: Workplaces must meet the requirements for work with flammable liquids capable of producing explosive mixtures of vapours with air.
	: The workplace must meet the requirements against accidental leaks of the product into water or soil.
Site where the activities are performed	: Indoor use is anticipated.

Additional requirements to control the hazard for workers carrying out partial work activities:

Partial work activities with the product (Partial contributing scenarios)	**Process category**	**Required additional measures to control worker exposure**
Pumping from/to containers and devices within a closed system with no possibility to release emission	PROC 1 Use within closed production process	Irrelevant.
Pumping the hardener and the hardened coating composition from/to containers and devices at non dedicated facility with potential human and environment exposure	PROC 8a Transfer of the product (charging / discharging) to/from vessels/large containers at non dedicated facilities	Local air extraction at potential emission release. Ensure that material transfer takes place in a containment or under vacuum. Ensure a good level of controlled ventilation (10-15 air changes per hour).
Pumping the hardener and the hardened coating composition from/to containers and devices at non dedicated facility with potential human and environment exposure	PROC 8b Transfer of the product (charging / discharging) to/from vessels/large containers at dedicated facilities	Local air extraction at potential emission release. Ensure that material transfer takes place in a containment or under vacuum.
Mixing, blending, thinning of the hardener and the hardened coating composition in open devices with possible exposure to volatile components of the coating composition	PROC5 Mixing or blending in batch processes at mixture manufacturing (excl. charging and discharging of vessels).	Local air extraction at potential emission release or good level of controlled ventilation (10-15 air exchanges per hour). Avoid manual contact with wet parts.
Application by spraying.	PROC 7 Industrial spraying.	Robotic spraying in closed chambers or closed cabs with laminar extraction. In course of spraying, enter the chambers only with self-contained respirator. Manual spraying in spraying chambers with laminar flow of extracted air directed from the worker or in intensively ventilated spaces (10-15 air exchanges per hour) with respiratory protection (half-face or full-face respirator) provided with type A/P2 filter.
Manual hardened coating composition application by roller, brush or palette knife.	PROC 10 Roller, palette knife or brush application	Local air extraction at potential emission release or basic level of ventilation (3-5 air exchanges per hour).
Dipping or pouring application of hardened coating composition.	PROC 13 Treatment of articles by dipping and pouring	Ensure a good level of controlled ventilation (10-15 air changes per hour).
Free drying of hardened coating composition film at standard or slightly increased ambient temperature (by max. 20 °C)	PROC 4 Use within batch or other process where opportunity for exposure arises	Ensure a basic level of ventilation (3-5 air changes per hour). Avoid manual contact with wet parts.
Continuous drying and hardening processes of the hardened coating composition film at increased temperature	PROC 2 Use within continuous chemical production process with occasional controlled exposure (e.g. at sampling).	Does not require further risk control measures.

in drying tunnels equipped with vapour extraction		
Batch drying and hardening processes of the hardened coating composition film at increased temperature in extracted chambers	PROC 3 Use within closed batch process of mixture manufacturing.	Working process a maximum of 4h per day does not require further risk control measures.
Laboratory checks on the hardener and the coating composition	PROC 15 Use as laboratory reagent (laboratory work with the product)	Handling in a fume hood or in the presence of vacuum ventilation.
Activities involving product waste and waste contaminated by the product		If in risk of contact with waste, wear protective gloves. Store the waste in closable containers stored in well ventilated storages or outdoor.

Additional requirements to control environmental hazards

Air emission control	When spraying, remove fly coating mist from the air extracted from the work site. If the limits for solvent consumption defined in Ordinance no. 415/2012 Coll. are exceeded, use solvent recuperation from waste air or remove the solvents by incineration or other processes guaranteeing observation of emission parameters specified in air protection regulations.
Water emission control	Store the hardener, the coating and waste contaminated by coat in buildings structurally protected from leakage release and emergency release to surface and ground water. Treat water contaminated by coat compounds and remove solid impurities and organic compounds by sedimentation, filtration, biological treatment processes or special processes developed for treatment of water contaminated by coating compositions before discharging to surface water. When discharging the treated waste water, observe the contamination parameters specified for the involved facility by water management authority.
Disposal of waste	Dispose of hardener and coat waste and materials contaminated by coat and its compounds in cooperation with authorised persons as of hazardous waste. Dispose of solvent waste from tools and device cleaning as of hazardous waste. Prevent release or discharge of any liquid waste to surface and ground water unless it is treated and coating composition compounds are removed.

2. Professional use

Application sector	: SU 22
Chemical product category	: PC9a
Partial processes covered by exposure scenario	: PROC 3, PROC4, PROC5, PROC 7, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19
Environmental release	: ERC 8a, ERC 8d, ERC8c, ERC8f

Basic conditions to control the hazard for workers:

Duration of work activities	: Covers exposure up to 8 h/d (unless otherwise specified)
Concentration	: Work with hardener and standard hardened coating composition or coating composition thinned by solvents containing the same volatile components as the coating composition is anticipated.
Temperature	: Work at temperature up to 20 °C higher than site temperature is anticipated except for the hardened coating composition's drying and hardening processes at increased temperature.
General risk management measures	: Wear protective working clothes. Wear protective gloves and eye protection if in danger of contact with the hardener and the hardened coating composition (see section 8.2. of the SDS). Basic training required.
	: Use respiratory protection if NPK or PEL values are exceeded (see section 8 of the SDS).
	: Abide by general principles of safe and hygienic work with chemical substances.
	: Workplaces must meet the requirements for work with flammable liquids capable of producing explosive mixtures of vapours with air.
	: The workplace must meet the requirements against accidental leaks of the product into water or soil.
Site where the activities are performed	: Indoor and outdoor use is anticipated.

Additional requirements to control the hazard for workers carrying out partial work activities:

Partial work activities with the product (Partial contributing scenarios)	**Process category**	**Required additional measures to control worker exposure**
Pumping the hardener and the hardened coating composition from/to containers and devices at non dedicated facility with potential human and environment exposure	PROC 8a Transfer of the product (charging / discharging) to/from vessels/large containers at non dedicated facilities	Indoor: local air extraction at potential emission release or basic level of ventilation (3-5 air exchanges per hour). Outdoor: secure catch dripping paint

Pumping the hardener and the hardened coating composition from/to containers and devices at non dedicated facility with potential human and environment exposure	PROC 8b Transfer of the product (charging / discharging) to/from vessels/large containers at dedicated facilities	Indoor: local air extraction at potential emission release or basic level of ventilation (3-5 air exchanges per hour). Outdoor: secure catch dripping paint
Mixing, blending, thinning of hardener and the hardened coating composition in open devices with possible exposure to volatile components of the coating composition	PROC5 Mixing or blending in batch processes at mixture manufacturing (excl. charging and discharging of vessels).	Indoor: local air extraction at potential emission release or good level of controlled ventilation (10-15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour per day. Outdoor: working process a maximum of 1h per day does not require further risk control measures or use respiratory protection with filter type A.
Application by spraying.	PROC 11 Non industrial spraying.	Indoor: do spraying in spraying chambers with laminar flow of extracted air directed from the worker or in intensively ventilated spaces (5-10 air exchanges per hour) with respiratory protection (half-face or full-face respirator) provided with type A/P2 filter. Outdoor: use respiratory protection with filter type A/P2. Avoid carrying out activities involving exposure for more than 4 hour per day.
Manual hardened coating composition application by roller, brush or palette knife.	PROC 10 Roller, palette knife or brush application	Indoor: local air extraction at potential emission release or good level of ventilation (10-15 air exchanges per hour). Outdoor: does not require further risk control measures
Dipping or pouring application of hardened coating composition.	PROC 13 Treatment of articles by dipping and pouring	Indoor: local air extraction at potential emission release or good level of controlled ventilation (10-15 air exchanges per hour). Avoid manual contact with wet parts. Outdoor: use respiratory protection with filter type A. Avoid manual contact with wet parts.
Batch drying and hardening processes of the hardened coating composition film at increased temperature in extracted chambers	PROC 3 Use within closed batch process of mixture manufacturing.	Local air extraction at potential emission release or good level of controlled ventilation (10-15 air exchanges per hour).
Free drying of hardened coating composition film at standard or slightly increased ambient temperature (by max. 20 °C)	PROC 4 Use within batch or other process where opportunity for exposure arises	Indoor: basic level of ventilation (3-5 air exchanges per hour). Avoid manual contact with wet parts. Outdoor: avoid carrying out activities involving exposure for more than 1 hour per day. Avoid manual contact with wet parts.
Manual cleaning of small containers, application devices and tools	PROC 10 Roller or brush application (by a tool held in hand)	Indoor: local air extraction at potential emission release or good level of ventilation (10-15 air exchanges per hour). Outdoor: does not require further risk control measures
Laboratory checks on the hardener and the hardened coating composition	PROC 15 Use as laboratory reagent (laboratory work with the product)	Handling in a fume hood or in the presence of vacuum ventilation.
Manual activities involving hand contact	PROC19 Hand-mixing with intimate contact and only PPE available	Indoor. Use protective gloves, local air extraction at potential emission release or good ventilation Outdoor: use protective gloves
Activities involving product waste and waste contaminated by the product		If in risk of contact with waste, wear protective gloves. Store the waste in closable containers stored in well ventilated storages or outdoor.

Additional requirements to control environmental hazards

Air emission control	Does not require special risk control measures
Water emission control	Store the hardener, paints and waste contaminated by paints in buildings structurally protected from leakage release and emergency release to surface and ground water. Clean up waste water contaminated by paints in the Municipal wastewater treatment plants before discharging to surface water or capture or dispose them as hazardous waste in cooperation with the authorized person. Overspray and drips paint as possible to capture and dispose as hazardous waste.
Disposal of waste	Prevent leakage or discharge of any liquid waste into surface and groundwater unless it is cleaned up from the paint compounds. Dispose of hardener waste, paint waste and materials contaminated by paints and its compounds in cooperation with authorised persons as of hazardous waste. Dispose of solvent waste from tools and device cleaning as of hazardous waste.