

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

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

- 1.1. Product identifier**
U7000 Hardener for polyurethane paints
Substance / mixture
mixture
Number
U7000-A-C0000
UFI
HDNN-A8F7-6102-MA1H
Other mixture names
U7000 Tužidlo do polyuretanových nátěrových hmot
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
Mixture's intended use
HARDENER U7000 is designed for hardening of two-component polyurethane paints
Main intended use
PC-PNT-7 Paint removers, thinners and related auxiliaries
Mixture uses advised against
The product should not be used in ways other than those referred in Section 1.
- 1.3. Details of the supplier of the safety data sheet**
Manufacturer
Name or trade name
COLORLAK, a.s.
Address
Tovární 1076, Staré Město, 686 03
Czech Republic
Identification number (CRN)
49444964
VAT Reg No
CZ49444964
Phone
+420 572527111
E-mail
colorlak@colorlak.cz
Web address
www.colorlak.cz
Competent person responsible for the safety data sheet
Name
Ing. Veronika Chytilová
E-mail
chytilova@colorlak.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. 2, H225
Skin Sens. 1, H317
Eye Irrit. 2, H319
Resp. Sens. 1, H334
STOT SE 3, H336

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

Most serious adverse physico-chemical effects

Highly flammable liquid and vapour.

Most serious adverse effects on human health and the environment

Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022			
Revision date	09th August 2023	Version	2.0	

2.2. Label elements

Hazard pictogram



Signal word

Danger

Hazardous substances

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetrimethanol ethyl acetate
m-tolylidene diisocyanate

Hazard statements

H225	Highly flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P370+P378	In case of fire: Use foam (alcohol resistant), carbon dioxide, a spray mist, powder to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to by handing over to a person authorized to dispose of waste or a site designated by the town.

Supplemental information

EUH204	Contains isocyanates. May produce an allergic reaction.
EUH066	Repeated exposure may cause skin dryness or cracking. 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. Carbon dioxide is released when it comes into contact with water.

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022			
Revision date	09th August 2023	Version	2.0	

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

HARDENER U7000 is a 75% solution of isocyanate resin in ethyl acetate. Mixture of substances and additives specified below.

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: 53317-61-6 EC: 500-120-8	Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetrimethanol	74-79	Skin Sens. 1, H317 Eye Irrit. 2, H319	
Index: 607-022-00-5 CAS: 141-78-6 EC: 205-500-4	ethyl acetate	21-25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	2
Index: 615-006-00-4 CAS: 26471-62-5 EC: 247-722-4 Registration number: 01-2119454791-34	m-tolylidene diisocyanate	<0,5	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 2, H330 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 Aquatic Chronic 3, H412 Specific concentration limit: Resp. Sens. 1, H334: C ≥ 0.1 %	1, 3

Notes

- 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.
- A substance for which exposure limits are set.
- 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.

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

Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment if the person has any health problems.

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

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

If inhaled

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness.

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.

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. Highly flammable liquid and vapour. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

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. Remove mechanically; cover the rest with a moist, liquid-binding material (e.g. wood flour, chemical binders based on calcium silicate hydrate, sand). After approx. 1 hour, collect in the waste container, do not close it (evolution of CO₂!). Keep it moist and let it stand for several days in a safe, free place. The area affected by the spill can be decontaminated using the following recommended decontamination solution: Decontamination solution 1: 8-10% sodium carbonate and 2% liquid soap in water. Decontamination solution 2: Liquid/yellow soap (potassium soap containing ~15% anionic surfactant): 20 ml; water: 700 ml; polyethylene glycol (PEG 400): 350 ml. Decontaminant 3: 30% commercial liquid detergent (contains monoethanolamine), 70% water.

6.4. Reference to other sections

See the Section 7, 8 and 13.

U7000 Hardener for polyurethane paints

Creation date 05th August 2022
Revision date 09th August 2023 Version 2.0

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the occupational exposure limits. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use non-sparking tools. Use of antistatic clothes and footwear is recommended. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes. No smoking. Contaminated work clothing should not be allowed out of the workplace. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep container tightly closed. Keep cool.

Content	Packaging type	Material of package
1 kg	can / tin	FE
5 kg	can / tin	FE
10 kg	bucket	FE

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

not available

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 (EU) 2017/164

Substance name (component)	Type	Value
ethyl acetate (CAS: 141-78-6)	OEL 8 hours	734 mg/m ³
	OEL 8 hours	200 ppm
	OEL 15 minutes	1468 mg/m ³
	OEL 15 minutes	400 ppm

DNEL

m-tolylidene diisocyanate					
Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
Workers	Inhalation	0.035 mg/m ³	Chronic effects systemic		BL dodavatele
Workers	Inhalation	0.14 mg/m ³	Acute effects systemic		BL dodavatele
Workers	Inhalation	0.035 mg/m ³	Chronic effects local		BL dodavatele
Workers	Inhalation	0.14 mg/m ³	Acute effects local		BL dodavatele

PNEC

m-tolylidene diisocyanate			
Route of exposure	Value	Value determination	Source
Freshwater environment	0.013 mg/l		BL dodavatele

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022	Version	2.0	
Revision date	09th August 2023			

m-tolylidene diisocyanate			
Route of exposure	Value	Value determination	Source
Marine water	0.00125 mg/l		BL dodavatele
Microorganisms in sewage treatment	>1 mg/l		BL dodavatele
Soil (agricultural)	>1 mg/kg		BL dodavatele

8.2. Exposure controls

Take off contaminated clothing and wash before reuse. Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles.

Skin protection

Hand protection: Protective gloves resistant to the product. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment. In case of inadequate ventilation wear respiratory protection.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless, almost colorless
Odour	after solvents
Melting point/freezing point	data not available
m-tolylidene diisocyanate (CAS: 26471-62-5)	9.5 °C (BL dodavatele)
Boiling point or initial boiling point and boiling range	data not available
m-tolylidene diisocyanate (CAS: 26471-62-5)	252-254 °C (BL dodavatele)
Flammability	data not available
Lower and upper explosion limit	
bottom	0.9 % (for Toluyldiisocyanate (mixture of isomers))
m-tolylidene diisocyanate (CAS: 26471-62-5)	0.9 % (BL dodavatele)
upper	11.4 % (for ethyl acetate)
m-tolylidene diisocyanate (CAS: 26471-62-5)	9.5 % (BL dodavatele)
Flash point	-7 °C (PND 65 6065)
m-tolylidene diisocyanate (CAS: 26471-62-5)	132 °C (BL dodavatele)
Auto-ignition temperature	data not available
m-tolylidene diisocyanate (CAS: 26471-62-5)	>595 °C (BL dodavatele)
Decomposition temperature	data not available
pH	5-6 (undiluted at 23 °C) (practical exam)
Kinematic viscosity	>20.5 mm²/s at 40 °C
Solubility in water	reacts with water
Partition coefficient n-octanol/water (log value)	logPow 0.60 (for ethyl acetate)
Vapour pressure	228 hPa at 50 °C (SDS supplier)
Vapour pressure	93 hPa at 20 °C (for ethyl acetate)
m-tolylidene diisocyanate (CAS: 26471-62-5)	<7 hPa at 20 °C (BL dodavatele)
Density and/or relative density	

SAFETY DATA SHEET

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

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

Density	1.175-1.195 g/cm ³ at 23 °C (manufacturer's methodology B5/TD1-5 (ČSN EN ISO 2811-2))
m-tolylidene diisocyanate (CAS: 26471-62-5)	1.22 g/cm ³ at 20 °C (BL dodavatele)
Relative vapour density	data not available
Particle characteristics	data not available
Form	liquid
VOC content in product: category and subcategory of products	- not classified

9.2. Other information

Combustion temperature	81 °C (PND 65 6212)
Ignition temperature	>450 °C (PND 33 0371)
Vapour density	> 1 (air = 1)
Content of organic solvents (VOC)	0.250 kg/kg (calculation)
Total organic carbon (TOC)	0.136 kg/kg (calculation)
Solid content (dry matter)	74-79 % volume (manufacturer's methodology B5/TD1-12B (ČSN EN ISO 3251))
Calorific value: 23,11 MJ/kg (PND 65 6169); Heat of combustion: 24,47 MJ/kg (PND 65 6169); Flammability - temperature class: T1 (PND 33 0371).	

SECTION 10: Stability and reactivity

10.1. Reactivity

not available

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

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

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

m-tolylidene diisocyanate							
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Source
Oral	LD ₅₀	OECD 401	5110 mg/kg		Rat (Rattus norvegicus)	M	BL dodavatel e
Oral	LD ₅₀	OECD 401	4130 mg/kg		Rat (Rattus norvegicus)	F	BL dodavatel e
Dermal	LD ₅₀	OECD 402	>9400 mg/kg		Rabbit	F/M	BL dodavatel e

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022		Version	2.0
Revision date	09th August 2023			

m-tolylidene diisocyanate							
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Source
Inhalation	LC ₅₀	OECD 403	0.107 mg/l	4 hours	Rat (Rattus norvegicus)	F/M	BL dodavatel e
Inhalation	LC ₅₀	OECD 403	0.47 mg/l	1 hour	Rat (Rattus norvegicus)	F/M	BL dodavatel e

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetrimethanol							
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Source
Oral	LD ₅₀		>2000 mg/kg		Rat (Rattus norvegicus)		BL dodavatel e
Inhalation (dust/mist)	LC ₅₀		>3.820 mg/l	4 hours	Rat (Rattus norvegicus)		BL dodavatel e

Skin corrosion/irritation

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetrimethanol				
Route of exposure	Result	Exposure time	Species	Source
	Slightly irritating		Rabbit	BL dodavatele

Irritation

m-tolylidene diisocyanate				
Route of exposure	Result	Exposure time	Species	Source
	Irritating, Highly irritating		Rabbit	BL dodavatele

Serious eye damage/irritation

Causes serious eye irritation.

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetrimethanol				
Route of exposure	Result	Exposure time	Species	Source
	Irritating		Rabbit	BL dodavatele

Respiratory or skin sensitisation

May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Sensitization

m-tolylidene diisocyanate						
Route of exposure	Result	Method	Exposure time	Species	Sex	Source
Dermal	Positive	OECD 429		Mouse		BL dodavatele

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022	Version	2.0	
Revision date	09th August 2023			

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetriethanol						
Route of exposure	Result	Method	Exposure time	Species	Sex	Source
	Positive			Guinea-pig (Cavia aperea f. porcellus)		BL dodavatele

Germ cell mutagenicity

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Carcinogenicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

m-tolylidene diisocyanate							
Route of exposure	Parameter	Method	Value	Result	Species	Sex	Source
Inhalation (vapor)		OECD 453		Tumor formation, No effect	Rat (Rattus norvegicus)	F/M	BL dodavatele

Reproductive toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

m-tolylidene diisocyanate								
Effect	Parameter	Method	Value	Exposure time	Result	Species	Sex	Source
Effects on fertility	NOAEL	OECD 416	<0.02 ppm		No effect	Rat (Rattus norvegicus)	F/M	BL dodavatele
Developmental toxicity	NOAEL	OECD 414	0.1 ppm	21 days (6 hour/day)	No effect	Rat (Rattus norvegicus)	F	BL dodavatele

Toxicity for specific target organ - single exposure

May cause drowsiness or dizziness.

m-tolyldiene diisocyanate						
Route of exposure	Parameter	Value	Result	Species	Sex	Source
Inhalation			Irritating			BL dodavatele

Toxicity for specific target organ - repeated exposure

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Repeated dose toxicity

m-tolylidene diisocyanate								
Route of exposure	Parameter	Result	Method	Value	Exposure time	Species	Sex	Source
Inhalation (vapor)	LOAEL		OECD 453	0.05 ppm		Rat (Rattus norvegicus)	F/M	BL dodavatele

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022	Version	2.0	
Revision date	09th August 2023			

Aspiration hazard

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

11.2. Information on 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. Additional information Special properties/effects: In case of over-exposure - especially when spray-on washing lacquers containing isocyanate without protective measures - there is a risk of concentration-dependent irritant effects on the eyes, nose, larynx and respiratory tract. Later manifestations of difficulties and the development of hypersensitivity (breathing difficulties, cough, asthma) are possible. In hypersensitive persons, a reaction can be triggered already at low concentrations of isocyanate, also at concentrations below the limit value of occupational exposure. Prolonged contact with the skin may cause drying and irritation effects. Skin contact with diisocyanate may affect skin sensitization to isocyanate and affect respiratory tract reactions. Danger of absorption through the skin. Aromatic hydrocarbons irritate the skin and mucous membranes and have a narcotic effect when inhaled in high concentrations. More frequent or prolonged contact may cause irritation and dermatitis.

SECTION 12: Ecological information

12.1. Toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Acute toxicity

m-tolylidene diisocyanate						
Parameter	Method	Value	Exposure time	Species	Environment	Source
LC ₅₀	OECD 203	133 mg/l	96 hours	Fish (Oncorhynchus mykiss)		BL dodavatel e
EC ₅₀	OECD 202	12.5 mg/l	48 hours	Daphnia (Daphnia magna)		BL dodavatel e
NOEC		1.1 mg/l	21 days	Daphnia (Daphnia magna)		BL dodavatel e
ErC ₅₀	OECD 201	4300 mg/l	96 hours	Algae (Selenastrum capricornutum)		BL dodavatel e
ErC ₅₀	OECD 201	3230 mg/l	96 hours	Algae (Selenastrum capricornutum)		BL dodavatel e
EC ₅₀	OECD 209	>100 mg/l	3 hours	Bacteria (Salmonella typhimurium)		BL dodavatel e
NOEC	OECD 207	>1000 mg/kg	14 days	Microorganisms (Photobacterium phosphoreum)		BL dodavatel e
NOEC	OECD 208	>1000 mg/kg	14 days	Higher plants		BL dodavatel e

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetrimethanol						
Parameter	Method	Value	Exposure time	Species	Environment	Source
EC ₅₀		>10000 mg/l		Bacteria	Activated sludge	BL dodavatel e

12.2. Persistence and degradability

 Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 (REACH) as amended			 COLORLAK barvy, které vydrží
U7000 Hardener for polyurethane paints				
Creation date	05th August 2022	Version	2.0	
Revision date	09th August 2023			

Data for the mixture are not available.

Biodegradability

m-tolylidene diisocyanate						
Parameter	Method	Value	Exposure time	Environment	Result	Source
	OECD 302C	0 %	28 days		Not biodegradable	BL dodavatel e

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylenedinitrime						
Parameter	Method	Value	Exposure time	Environment	Result	Source
	OECD 301F	34 %			Hardly biodegradable	BL dodavatel e

12.3. Bioaccumulative potential

Data for the mixture are not available.

m-tolylidene diisocyanate						
Parameter	Value	Exposure time	Species	Environment	Temperature [°C]	Source
Log Pow	3.43				22°C	BL dodavatele

12.4. Mobility in soil

No data are available for either the mixture or the components.

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

Isocyanate reacts with water at the interface with the evolution of CO₂ and the formation of a solid insoluble substance with a high melting point (polyurea). This reaction is strongly supported 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

SAFETY DATA SHEET

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

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

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**
II - substances presenting medium danger
- 14.5. Environmental hazards**
No.
- 14.6. Special precautions for user**
Reference in the Sections 4 to 8.
- 14.7. Maritime transport in bulk according to IMO instruments**
not relevant

Additional information

Hazard identification No.
UN number
Classification code
Safety signs

33
1866

F1
3



Road transport - ADR

Special provisions	640C
Limited quantities	5 L
Excepted quantities	E2
Packaging	
Packing instructions	P001
Special packing provisions	PP1
Mixed packing provisions	MP19
Portable tanks and bulk containers	
Guidelines	T4
Special provisions	TP1, TP8
ADR tank	
Tank code	L1,5BN
Vehicles for tank carriage	FL
Transport category	2
Tunnel restriction code	(D/E)
Special provision for operation	S2, S20

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

Railway transport - RID

Special provisions 640C

Packaging

Packing instructions P001

Special packing provisions PP1

Mixed packing provisions MP19

Portable tanks and bulk containers

Guidelines T4

Special provisions TP1, TP8

RID Tanks

Tank code L1,5BN

Transport category 2

Air transport - ICAO/IATA

Packaging instructions for limited amount Y341

Packaging instructions passenger 353

Cargo packaging instructions 364

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 as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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

m-tolylidene diisocyanate

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 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);

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

m-tolylidene diisocyanate

Restriction	Conditions of restriction
	— 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; — 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.

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

m-tolylidene diisocyanate

Restriction	Conditions of restriction
	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

not available

SECTION 16: Other information

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

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Guidelines for safe handling used in the safety data sheet

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P370+P378	In case of fire: Use foam (alcohol resistant), carbon dioxide, a spray mist, powder to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to by handing over to a person authorized to dispose of waste or a site designated by the town.

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

EUH204	Contains isocyanates. May produce an allergic reaction.
EUH066	Repeated exposure may cause skin dryness or cracking.

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
EC	Identification code for each substance listed in EINECS
EC ₅₀	Concentration of a substance when it is affected 50% of the population

U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
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
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
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
LOAEL	Lowest observed adverse effect level
log K _{ow}	Octanol-water partition coefficient
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
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
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquid
Resp. Sens.	Respiratory sensitization
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
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. Further instructions for the safe handling of aliphatic isocyanates (TDI (CAS: 584-84-9) and MDI (CAS: 822-06-0)) can be found on the ALIPA website: ALIPA Safeguard – We care that you care (www.alipa.org) (Product Stewardship “Walk the Talk”). For training on the safe use and handling of diisocyanates after 24 August 2023 see the website: <https://www.safeusediisocyanates.eu/>

Recommended restrictions of use

The product will be used mainly as a hardener for paint materials. Contact with paint materials containing reactive polyisocyanates and residual amounts of HDI monomers require appropriate protective measures (see also this safety data sheet). Therefore, they can only be used in industrial or professional applications. Not suitable for Do-It-Yourself applications.

Information about data sources used to compile the Safety Data Sheet

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.



SAFETY DATA SHEET

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



U7000 Hardener for polyurethane paints

Creation date	05th August 2022	Version	2.0
Revision date	09th August 2023		

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

The version 2.0 replaces the SDS version from 05 August 2022. Changes were made in sections 1, 2, 3, 6, 7, 11, 12, 13, 15 and 16.

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.