SAFETY DATA SHEET

United Kingdom (UK)

Date of issue/Date of revision

: 27 January 2022

Version : 3

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

1.1 Product identifier	
Product name	: SLOW HARDENER FOR POLYURETHANE PRIMER
Product code	: 9-572/E5
Other means of identif	cation
Not available.	

1.2 Relevant identified uses of the substance or mixture and uses advised against			
Product use	: Industrial applications, Used by spraying.		
Use of the substance/ mixture	: Hardener.		
Uses advised against	: Product is not intended, labelled or packaged for consumer use.		

1.3 Details of the supplier of the safety data sheet

PPG Industries Italia S.r.l., Via Comasina, 121, 20161 Milano, Italy Tel: +39 02 6404.1 PPG Industries (UK) Ltd., Needham Road, Stowmarket, Suffolk, IP14 2AD, UK Tel: +44 (0) 1449 773 338

e-mail address of person : Product.Stewardship.EMEA@ppg.com responsible for this SDS

1.4 Emergency telephone number

Supplier

Company emergency telephone number : +39 02 6404.1 (0800-1700)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: MixtureClassification according to Regulation (EC) No. 1272/2008 [CLP/GHS]Fam. Liq. 3, H226Acute Tox. 4, H332Eye Dam. 1, H318

Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 3, H412

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

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

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

2.2 Label elements

Code : 9-572/E5 SLOW HARDENER FOR POL	Date of issue/Date of revision: 27 January 2022YURETHANE PRIMER
SECTION 2: Hazards	identification
Hazard pictograms	
Signal word	: Danger
Hazard statements	 Flammable liquid and vapour. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.
Precautionary statements	
Prevention	: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release t the environment.
Response	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Store in a well-ventilated place. Keep container tightly closed.
Disposal	: Not applicable. P280, P210, P273, P305 + P351 + P338, P310, P403 + P233
Hazardous ingredients	 P-butoxyethyl acetate 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers hydrophilic aliphatic polyisocyanate [3-(2,3-epoxypropoxy)propyl]trimethoxysilane hydrophilic aliphatic polyisocyanate 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
Supplemental label elements	: Contains isocyanates. May produce an allergic reaction.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Ks from August 24 2023 adequate training is required before industrial or professional use.
Special packaging requirem Containers to be fitted with child-resistant fastenings	<u>eents</u> : Not applicable.
Tactile warning of danger	: Not applicable.
2.3 Other hazards	
Product meets the criteria for PBT or vPvB	: This mixture does not contain any substances that are assessed to be a PBT or a vPvE
Other hazards which do not result in classification	: Prolonged or repeated contact may dry skin and cause irritation.

Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

			Classification	
Product/ingredient name	Identifiers	% by weight	Regulation (EC) No. 1272/2008 [CLP]	Туре
Dutoxyethyl acetate	REACH #: 01-2119475112-47 EC: 203-933-3 CAS: 112-07-2 Index: 607-038-00-2	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332	[1] [2]
3-Isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate, oligomers	REACH #: 01-2119488734-24 EC: 931-312-3 CAS: 53880-05-0 (EC 931-312-3)	≥10 - ≤25	Skin Sens. 1B, H317 STOT SE 3, H335	[1]
hydrophilic aliphatic polyisocyanate	CAS: 160994-68-3	≥10 - ≤25	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 3, H412	[1] [2]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥5.0 - <10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304	[1] [2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥5.0 - ≤10	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
[3-(2,3-epoxypropoxy)propyl] trimethoxysilane	REACH #: 01-2119513212-58 EC: 219-784-2 CAS: 2530-83-8	≥1.0 - ≤5.0	Eye Dam. 1, H318	[1]
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≥1.0 - ≤5.0	Flam. Liq. 3, H226 STOT SE 3, H336	[1] [2]
hydrophilic aliphatic polyisocyanate		≥1.0 - ≤5.0	Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≥1.0 - ≤4.8	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
Hydrocarbons, C9, aromatics	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 64742-95-6	≥1.0 - ≤3.4	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
3-isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate	REACH #: 01-2119490408-31 EC: 223-861-6 CAS: 4098-71-9 Index: 615-008-00-5	≤0.30	Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	[1] [2]
English (GB)	United Kingdor	 m (UK)		3/20
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Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830			
Code : 9-572/E5	Date of issue/Date of revision	: 27 January 2022	
SLOW HARDENER FOR POLYURETHANE PRIMER			
SECTION 3: Composition/information on ingredients			
		See Section 16 for the full text of the H statements declared above.	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Xylene: Several REACH registrations cover the REACH registered substance with xylene isomers, ethylbenzene (and toluene). The other REACH Registrations include: 01-2119555267-33 reaction mass of ethylbenzene and m-xylene and p-xylene, 01-2119486136-34 Aromatic hydrocarbons, C8, 01-2119539452-40 reaction mass of ethylbenzene and xylene.

Туре

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

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

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
Inhalation	: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Skin contact	 Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
Ingestion	: If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects		
Eye contact :	Causes serious eye damage.	
Inhalation :	Harmful if inhaled. May cause respiratory irritation.	
Skin contact :	Defatting to the skin. May cause skin dryness and irritation. May cause an allergine reaction.	ic skin
Ingestion :	No known significant effects or critical hazards.	
Over-exposure signs/symptor	<u>ns</u>	
Eye contact	: Adverse symptoms may include the following: pain watering redness	
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing	
English (GB)	United Kingdom (UK) 4	4/20

Code : 9-572/E5 SLOW HARDENER FOR POL	Date of issue/Date of revision : 27 January 2022 YURETHANE PRIMER
SECTION 4: First aid	measures
Skin contact	: Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains
4.3 Indication of any immedia	ate medical attention and special treatment needed
Notes to physician	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: No specific treatment.
SECTION 5: Firefight	ing measures
5.1 Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Do not use water jet.
	rom the substance or mixture
Hazards from the substance or mixture	: Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	: Decomposition products may include the following materials: carbon oxides nitrogen oxides metal oxide/oxides Cyanate and isocyanate. hydrogen cyanide
5.3 Advice for firefighters	
Special precautions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to Europear standard EN 469 will provide a basic level of protection for chemical incidents.
SECTION 6: Acciden	tal release measures
6.1 Personal precautions, pro	otective equipment and emergency procedures
For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Code : 9-572/E5	No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830 Date of issue/Date of revision : 27 January 2022
SLOW HARDENER FOR POL	
SECTION 6: Acciden	tal release measures
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
6.3 Methods and material for	containment and cleaning up
Small spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
Special provisions	: Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.
6.4 Reference to other sections	 See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures	: Fut on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly
	closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Code SLOW HA	: 9-572/E5 ARDENER FOR PO	Date of issue/Date of revision : 27 January 2022 LYURETHANE PRIMER
		ig and storage
	on general ional hygiene	: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	tions for safe ncluding any ibilities	 Store between the following temperatures: 5 to 35°C (41 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
₽-butoxyethyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed
	through skin.
	STEL: 50 ppm 15 minutes.
	TWA: 20 ppm 8 hours.
	STEL: 332 mg/m ³ 15 minutes.
	TWA: 133 mg/m ³ 8 hours.
hydrophilic aliphatic polyisocyanate	EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation
	sensitiser.
	STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes.
	TWA: 0.02 mg/m ³ , (as -NCO) 8 hours.
xylene	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed
	through skin.
	STEL: 441 mg/m ³ 15 minutes.
	STEL: 100 ppm 15 minutes.
	TWA: 220 mg/m ³ 8 hours.
	TWA: 50 ppm 8 hours.
n-butyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020).
	STEL: 966 mg/m ³ 15 minutes.
	STEL: 200 ppm 15 minutes.
	TWA: 724 mg/m ³ 8 hours.
	TWA: 150 ppm 8 hours.
2-methoxy-1-methylethyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed
	through skin.
	STEL: 548 mg/m ³ 15 minutes.
	STEL: 100 ppm 15 minutes.
	TWA: 274 mg/m ³ 8 hours.
English (GB)	United Kingdom (UK) 7/20

Conforms to Regulation (EC) No	. 1907/2006 (REACH), Annex II, as	s amended by Regulation (EU) No. 2015/830
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Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 8: Exposure controls/personal protection

	TWA: 50 ppm 8 hours.
hydrophilic aliphatic polyisocyanate	EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation
	sensitiser.
	STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes.
	TWA: 0.02 mg/m ³ , (as -NCO) 8 hours.
ethylbenzene	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed
	through skin.
	STEL: 552 mg/m ³ 15 minutes.
	STEL: 125 ppm 15 minutes.
	TWA: 441 mg/m ³ 8 hours.
	TWA: 100 ppm 8 hours.
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl	EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation
isocyanate	sensitiser.
	STEL: 0.07 mg/m³, (as -NCO) 15 minutes.
	TWA: 0.02 mg/m³, (as -NCO) 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
2-butoxyethyl acetate	DNEL	Long term Oral	8.6 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	36 mg/kg bw/day	General population	
	DNEL	Short term Dermal	72 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	80 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	102 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	120 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	133 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	169 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	200 mg/m ³	General population	Local
	DNEL	Short term Inhalation	333 mg/m ³	Workers	Local
3-Isocyanatomethyl-	DNEL	Long term Inhalation	0.29 mg/m ³	Workers	Local
3,5,5-trimethylcyclohexyl					
isocyanate, oligomers					
	DNEL	Short term Inhalation	0.58 mg/m ³	Workers	Local
xylene	DNEL	Short term Inhalation	260 mg/m ³	General population	Systemic
-	DNEL	Short term Inhalation	260 mg/m ³	General population	Local
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Systemic
	DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	442 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	442 mg/m ³	Workers	Local
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
n-butyl acetate	DNEL	Long term Inhalation	300 mg/m ³	Workers	Systemic
-	DNEL	Long term Inhalation	300 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Local
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[3-(2,3-epoxypropoxy)propyl]DNELLong te Short to DNEL[3-(2,3-epoxypropoxy)propyl]DNELShort to DNEL[3-(2,3-epoxypropoxy)propyl]DNELShort to DNEL[3-(2,3-epoxypropoxy)propyl]DNELShort to DNEL[3-(2,3-epoxypropoxy)propyl]DNELShort to DNEL[3-(2,3-epoxypropoxy)propyl]DNELShort to DNEL[3-(2,3-epoxypropoxy)propyl]DNELShort to DNEL[3-(2,3-epoxypropoxy)propyl]DNELLong te DNEL[3-(2,3-epoxypropoxy)propyl]DNELLong te DNEL[3-(2,3-epoxypropoxy)propyl]DNELLong te DNEL[3-(2,3-epoxypropoxy)propyl]DNELLong te DNEL[3-(2,3-epoxypropoxy)propyl]DNELLong te DNEL[3-(2,3-epoxypropoxy)propyl]DNELLong te DNEL[3-(2,3-epoxypropoxypropyl]DNELLong te DNEL[3-(2,3-epoxypropoxypropyl]DNELLong te DNEL[3-(2,3-epoxypropoxypropyl]DNELLong te DNEL[3-(2,3-epoxypropoxypropyl]DNELLong te DNEL[3-(2,3-epoxypropoxypropyl]DNELLong te DNEL[3-(3,4-epoxypropoxypropyl]DNELLong te DNEL[3-(3,4-epoxypropoxypr	ersonal pro erm Inhalation erm Dermal erm Inhalation erm Dermal erm Dermal erm Dermal erm Inhalation erm Inhalation erm Inhalation erm Inhalation erm Inhalation erm Dermal	tection 600 mg/m ³ 11 mg/m ³ 147 mg/m ³ 21 mg/kg bw/day 12.5 mg/kg bw/day 12.5 mg/kg bw/day 21 mg/kg bw/day 21 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³ 54.8 mg/kg bw/day	Workers Workers Workers General population General population Workers Workers General population General population	Systemic Systemic Systemic Systemic Systemic Systemic Systemic Systemic Systemic Systemic Systemic
2	erm Inhalation rm Dermal erm Inhalation erm Oral erm Dermal erm Dermal erm Inhalation erm Inhalation erm Inhalation erm Inhalation erm Inhalation	600 mg/m ³ 11 mg/m ³ 147 mg/m ³ 21 mg/kg bw/day 12.5 mg/kg bw/day 12.5 mg/kg bw/day 21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	Workers Workers General population General population Workers Workers General population General population	Systemic Systemic Systemic Systemic Systemic Systemic Systemic Local
[3-(2,3-epoxypropoxy)propyl]DNELLong te DNELtrimethoxysilaneDNELShort te DNEL2-methoxy-1-methylethyl acetateDNELLong te DNELDNELLong te DNELDNELLong te DNELDNELLong te DNELDNELLong te DNELDNELLong te DNELDNELLong te DNELethylbenzeneDNELLong te DNELDNELHydrocarbons, C9, aromaticsDNELLong te DNELHydrocarbons, C9, aromaticsDNELLong te DNELDNELLong te DNELDNELDNELLong te DNELLong te DNELDNELLong te DNELDNELDNELLong te DNELDNELLong teDNELLon	erm Dermal erm Inhalation erm Dermal erm Oral erm Dermal erm Inhalation erm Inhalation erm Inhalation erm Inhalation erm Inhalation	11 mg/m ³ 147 mg/m ³ 21 mg/kg bw/day 12.5 mg/kg bw/day 12.5 mg/kg bw/day 21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	Workers Workers General population General population Workers Workers General population General population	Systemic Systemic Systemic Systemic Systemic Systemic Systemic Local
3-(2,3-epoxypropoxy)propyl]DNELShort tririmethoxysilaneDNELLong teDNELLong teDNELLong teDNELLong teDNELLong te2-methoxy-1-methylethylDNELLong teacetateDNELLong teDNELLong teDNELDNELLong teDNELLong te	erm Inhalation erm Dermal erm Oral erm Dermal erm Dermal erm Inhalation erm Inhalation erm Inhalation erm Inhalation	147 mg/m ³ 21 mg/kg bw/day 12.5 mg/kg bw/day 12.5 mg/kg bw/day 21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	Workers Workers General population General population Workers General population General population	Systemic Systemic Systemic Systemic Systemic Systemic Local
Arimethoxysilane DNEL Short to DNEL Long te DNEL Long te	erm Dermal rm Oral rm Dermal rm Dermal rm Inhalation rm Oral rm Inhalation rm Inhalation rm Dermal	21 mg/kg bw/day 12.5 mg/kg bw/day 12.5 mg/kg bw/day 21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	Workers General population General population Workers Workers General population General population General population	Systemic Systemic Systemic Systemic Systemic Systemic Local
2-methoxy-1-methylethyl acetate bnet bnet bnet bnet bnet bnet bnet b	erm Oral erm Dermal erm Dermal erm Inhalation erm Inhalation erm Inhalation erm Dermal	12.5 mg/kg bw/day 12.5 mg/kg bw/day 21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	General population General population Workers General population General population General population	Systemic Systemic Systemic Systemic Local
2-methoxy-1-methylethyl acetate brethylbenzene Advisionacionacionacionacionacionacionacionac	rm Dermal rm Dermal rm Inhalation rm Oral rm Inhalation rm Inhalation rm Dermal	12.5 mg/kg bw/day 21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	General population Workers Workers General population General population General population	Systemic Systemic Systemic Systemic
2-methoxy-1-methylethyl acetate bNEL Long te DNEL Long te	rm Dermal rm Inhalation rm Oral rm Inhalation rm Inhalation rm Dermal	21 mg/kg bw/day 147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	Workers Workers General population General population General population	Systemic Systemic Systemic Local
2-methoxy-1-methylethyl acetate bNEL Long te DNEL Long te	rm Inhalation rm Oral rm Inhalation rm Inhalation rm Dermal	147 mg/m ³ 1.67 mg/kg bw/day 33 mg/m ³ 33 mg/m ³	Workers General population General population General population	Systemic Systemic Local
2-methoxy-1-methylethyl acetate bNEL Long te DNEL Long te	rm Oral rm Inhalation rm Inhalation rm Dermal	1.67 mg/kg bw/day 33 mg/m³ 33 mg/m³	General population General population General population	Systemic Local
Acetate DNEL Long te DNEL Long te	erm Inhalation erm Inhalation erm Dermal	33 mg/m ³ 33 mg/m ³	General population General population	Local
ethylbenzene DNEL Long te DNEL Long te	rm Inhalation rm Dermal	33 mg/m ³	General population	
ethylbenzene DNEL Long te DNEL Long te DNEL Long te DNEL Short t DNEL Long te DNEL Long te	rm Dermal			Systemi
ethylbenzene DNEL Long te DNEL Long te DNEL Short to DNEL Long te DNEL Long te		E4.9 mg/kg bw/dov		
ethylbenzene Hydrocarbons, C9, aromatics Hydrocarbons, C9,		54.0 mg/kg bw/uay	General population	Systemi
ethylbenzene DNEL Long te DNEL Short to DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Short to DNEL Long te DNEL Long te	rm Dermal	153.5 mg/kg bw/day	Workers	Systemic
ethylbenzene DNEL Short tr DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Short tr DNEL Short tr DNEL Long te DNEL Long te	rm Inhalation	275 mg/m ³	Workers	Systemi
ethylbenzene DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Short te DNEL Long te	erm Inhalation	550 mg/m ³	Workers	Local
Additional and the second seco	rm Oral	1.6 mg/kg bw/day	General population	Systemic
Hydrocarbons, C9, aromatics Hydrocarbons, C9, aromatics Hydrocarbons, C9, aromatics DNEL DNEL DNEL DNEL DNEL DNEL Long te DNEL DNEL Long te DNEL Long te	rm Inhalation	15 mg/m ³	General population	Systemi
Hydrocarbons, C9, aromatics DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Long te	rm Inhalation	77 mg/m³	Workers	Systemi
Hydrocarbons, C9, aromatics DNEL Long te DNEL Long te DNEL Long te DNEL Long te DNEL Long te	rm Dermal	180 mg/kg bw/day	Workers	Systemi
DNEL Long te DNEL Long te DNEL Long te	erm Inhalation	293 mg/m ³	Workers	Local
DNEL Long te DNEL Long te DNEL Long te	rm Inhalation	150 mg/m ³	Workers	Systemic
DNEL Long te DNEL Long te	rm Dermal	25 mg/kg bw/day	Workers	Systemi
DNEL Long te	rm Inhalation	32 mg/m ³	General population	Systemi
	rm Dermal	11 mg/kg bw/day	General population	Systemi
	rm Oral	11 mg/kg bw/day	General population	Systemi
3-isocyanatomethyl- DNEL Long te 3,5,5-trimethylcyclohexyl	rm Inhalation	0.045 mg/m ³	Workers	Local
socyanate				
		0.045 mg/m ³	Workers	Local
DNEL Short to DNEL Long te	erm Inhalation	0.0453 mg/m ³	Workers Workers	Local Local

Product/ingredient name	Туре	Compartment Detail	Value	Method Detail
2-butoxyethyl acetate	-	Fresh water	0.304 mg/l	-
	-	Marine water	0.0304 mg/l	-
	-	Fresh water sediment	2.03 mg/kg dwt	-
	-	Marine water sediment	0.203 mg/kg dwt	-
	-	Soil	0.42 mg/kg dwt	-
	-	Sewage Treatment Plant	90 mg/l	-
xylene	-	Fresh water	0.327 mg/l	-
-	-	Marine water	0.327 mg/l	-
	-	Sewage Treatment Plant	6.58 mg/l	-
	-	Fresh water sediment	12.46 mg/kg dwt	-
	-	Marine water sediment	12.46 mg/kg dwt	-
	-	Soil	2.31 mg/kg	-
n-butyl acetate	-	Fresh water	0.18 mg/l	-
	-	Marine water	0.018 mg/l	-
	-	Fresh water sediment	0.981 mg/kg	-
	-	Marine water sediment	0.0981 mg/kg	-
	-	Sewage Treatment Plant	35.6 mg/l	-
	-	Soil	0.0903 mg/kg	-
[3-(2,3-epoxypropoxy)propyl] trimethoxysilane	-	Fresh water	1 mg/l	Assessment Factors
-	-	Marine water	0.1 mg/l	Assessment Factors
	-	Sewage Treatment Plant	10 mg/l	Assessment Factors
English (GB)	<u> </u>	United Kingdom (UK)	1	9/20

Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 8: Exposure controls/personal protection

	-	Fresh water sediment	3.6 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	0.36 mg/kg dwt	Equilibrium Partitioning
	-	Soil	0.14 mg/kg dwt	Equilibrium Partitioning
2-methoxy-1-methylethyl acetate	-	Fresh water	0.635 mg/l	-
	-	Marine water	0.0635 mg/l	-
	-	Fresh water sediment	3.29 mg/kg	-
	-	Marine water sediment	0.329 mg/kg	-
	-	Soil	0.29 mg/kg	-
	-	Sewage Treatment Plant	100 mg/l	-
ethylbenzene	-	Fresh water	0.1 mg/l	Assessment Factors
	-	Marine water	0.01 mg/l	Assessment Factors
	-	Sewage Treatment Plant	9.6 mg/l	Assessment Factors
	-	Fresh water sediment	13.7 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	1.37 mg/kg dwt	Equilibrium Partitioning
	-	Soil	2.68 mg/kg dwt	Equilibrium Partitioning
	-	Secondary Poisoning	20 mg/kg	-
3-isocyanatomethyl-	-	Fresh water	0.06 mg/l	Assessment Factors
3,5,5-trimethylcyclohexyl isocyanate				
	-	Marine water	0.003 mg/l	Assessment Factors
	-	Sewage Treatment Plant	10.6 mg/l	Assessment Factors
	-	Fresh water sediment	218.92 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	21.89 mg/kg dwt	Equilibrium Partitioning
	-	Soil	44.01 mg/kg dwt	Equilibrium Partitioning

8.2 Exposure controls		
Appropriate engineering controls	:	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Individual protection meas	ures	
Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Chemical splash goggles and face shield. Use eye protection according to EN 166.
Skin protection		
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
Gloves	:	butyl rubber

Conforms t	o Regulation (EC) No	. 1907/2006 (REACH)), Ar	nnex II	l, <mark>as a</mark> r	nende	ed by F	Regulation (EU) No	. 2015/830

Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 8: Exposure controls/personal protection

Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti- static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Use an air-fed respirator unless a site-specific assessment determines that an air-fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3
Restrictions on use	: Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	: Liquid.
Colour	: Colourless.
Odour	: Characteristic.
Odour threshold	: Not available.
рН	: Not applicable. insoluble in water.
Melting point/freezing point	: May start to solidify at the following temperature: -66°C (-86.8°F) This is based on data for the following ingredient: 2-methoxy-1-methylethyl acetate. Weighted average: -82.51°C (-116.5°F)
Initial boiling point and boiling range	: >37.78°C
Flash point	: Closed cup: 24°C
Evaporation rate	: Highest known value: 1 (n-butyl acetate) Weighted average: 0.34compared with butyl acetate
Flammability (solid, gas)	: liquid
Upper/lower flammability or explosive limits	: Greatest known range: Lower: 1.4% Upper: 7.6% (n-butyl acetate)
Vapour pressure	:

Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 9: Physical and chemical properties

			Vapou	ır Pressu	ire at 20°C	Vapo	ur press	sure at 50°C			
		Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method			
		p-butyl acetate	11.25	1.5	DIN EN 13016-2						
Vapour density	:		ghest known value: 8.1 (Air = 1) ([3-(2,3-epoxypropoxy)propyl]trimethoxysilane). eighted average: 5.11 (Air = 1)								
Relative density	:	1									
Solubility(ies)	:	Insoluble in the follow	soluble in the following materials: cold water.								
Partition coefficient: n-octanol/ water	:	Not applicable.	lot applicable.								
Auto-ignition temperature	:	Ingredient name		°C	°F	N	lethod				
		2-methoxy-1-methylethyl	acetate	333	631.4	DI	N 51794				
Decomposition temperature	:	Stable under recomm	nended st	orage an	d handling co	nditions	(see Sec	tion 7).			
Viscosity	:	Kinematic (40°C): >2	Kinematic (40°C): >21 mm²/s								
Viscosity	:	< 30 s (ISO 6mm)	< 30 s (ISO 6mm)								
Explosive properties	:	•	The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.								
Oxidising properties		Product does not pre									

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: In a fire, hazardous decomposition products may be produced. Refer to protective measures listed in sections 7 and 8.
10.5 Incompatible materials	: Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.
10.6 Hazardous decomposition products	 Depending on conditions, decomposition products may include the following materials: Cyanate and isocyanate. carbon oxides nitrogen oxides hydrogen cyanide metal oxide/oxides

Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-butoxyethyl acetate	LD50 Dermal	Rabbit	1500 mg/kg	-
	LD50 Oral	Rat	1880 mg/kg	-
3-Isocyanatomethyl-	LC50 Inhalation Dusts and	Rat	>5010 mg/m ³	4 hours
3,5,5-trimethylcyclohexyl isocyanate,	mists			
oligomers (isocyanurate type)				
	LD50 Oral	Rat	>14 g/kg	-
xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
n-butyl acetate	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
[3-(2,3-epoxypropoxy)propyl]	LC50 Inhalation Dusts and	Rat	>5300 mg/m ³	4 hours
trimethoxysilane	mists			
	LD50 Dermal	Rabbit	4.3 g/kg	-
	LD50 Oral	Rat	7.01 g/kg	-
2-methoxy-1-methylethyl acetate	LC50 Inhalation Vapour	Rat	30 mg/l	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	6190 mg/kg	-
hydrophilic aliphatic polyisocyanate	LC50 Inhalation Dusts and	Rat	>5 mg/l	4 hours
	mists			
ethylbenzene	LC50 Inhalation Vapour	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Hydrocarbons, C9, aromatics	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat -	3492 mg/kg	-
		Female		
3-isocyanatomethyl-	LC50 Inhalation Dusts and	Rat	0.04 mg/l	4 hours
3,5,5-trimethylcyclohexyl isocyanate	mists			
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	4825 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Acute toxicity estimates

Route	ATE value
Oral	5792.48 mg/kg
Dermal	3685.11 mg/kg
Inhalation (vapours)	18.88 mg/l
Inhalation (dusts and mists)	39.75 mg/l

Irritation/Corrosion

Product/ingredient r	Result Species		Score	Exposure	Observation	
xylene [3-(2,3-epoxypropoxy)propyl] trimethoxysilane		Skin - Moderate irritantRabbit-Eyes - Cornea opacityRabbit1		- 11.8	24 hours 500 mg 1 minutes	- 24 hours
Conclusion/Summary					·	
Skin : There are no data available on the mixture itself.						
Eyes	es : There are no data available on the mixture itself.					
Respiratory	Sespiratory : There are no data available on the mixture itself.					
<u>Sensitisation</u>						
English (GB)		United Kingdon	า (UK)			13/20

Code

: 9-572/E5 SLOW HARDENER FOR POLYURETHANE PRIMER

Date of issue/Date of revision

: 27 January 2022

SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result
Selsocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers (isocyanurate type) hydrophilic aliphatic polyisocyanate	skin skin	Guinea pig Mouse	Sensitising Sensitising

Conclusion/Summary

Skin	: There are no data available on the mixture itself.
Respiratory	: There are no data available on the mixture itself.
Mutagenicity	
Conclusion/Summary	: There are no data available on the mixture itself.
Carcinogenicity	
Conclusion/Summary	: There are no data available on the mixture itself.
Reproductive toxicity	
Conclusion/Summary	: There are no data available on the mixture itself.
Teratogenicity	
Conclusion/Summary	: There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
S-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers (isocyanurate type)	Category 3	-	Respiratory tract irritation
hydrophilic aliphatic polyisocyanate	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation
n-butyl acetate	Category 3	-	Narcotic effects
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
hydrophilic aliphatic polyisocyanate	Category 3	-	Respiratory tract irritation
Hydrocarbons, C9, aromatics	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

Aspiration hazard

Prod	luct/ingredient name	Result					
xylene ethylbenzene Hydrocarbons, C9, arom	atics	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1					
Information on likely routes of exposure	: Not available.						
Potential acute health e	effects						
Inhalation	: Harmful if inhaled. May o	cause respiratory irritation.					
Ingestion	: No known significant effe	No known significant effects or critical hazards.					
Skin contact	: Defatting to the skin. Ma	y cause skin dryness and irritation. May cause an allergic skin					

reaction. Eye contact

: Causes serious eye damage.

5	Symp	toms	relate	ed to	<u>the</u>	phy	/sica	l, chem	ica	l and	tox	ico	logi	ica	С	hara	act	eri	<u>sti</u>	CS

English (GB)

United Kingdom (UK)

Code : 9-572/E5	Date of issue/Date of revision : 27 January 2022
SLOW HARDENER FOR POL	
SECTION 11: Toxicol	ogical information
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	: Adverse symptoms may include the following: stomach pains
Skin contact	: Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur
Eye contact	: Adverse symptoms may include the following: pain watering redness
	cts as well as chronic effects from short and long-term exposure
Short term exposure Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Long term exposure	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Potential chronic health effe	<u>cts</u>
Not available.	
Conclusion/Summary	: Not available.
General	: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: No known significant effects or critical hazards.
Other information	: Not available.

Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Repeated exposure may lead to permanent respiratory disability. Moisture-sensitive material. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Avoid contact with skin and clothing.

Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
	Acute LC50 28 mg/l	Fish	96 hours
n-butyl acetate	Acute LC50 18 mg/l	Fish	96 hours
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Acute LC50 324 mg/l	Daphnia	48 hours
2-methoxy-1-methylethyl acetate	Acute LC50 134 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
ethylbenzene	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
	Chronic NOEC 1 mg/l Fresh	Daphnia -	-
	water	Ceriodaphnia dubia	
Hydrocarbons, C9, aromatics	EC50 3.2 mg/l	Daphnia	48 hours
, ,	LC50 9.2 mg/l	Fish	96 hours

Conclusion/Summary : There are no data available on the mixture itself.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-butoxyethyl acetate	OECD 301A	97 % - Readily - 7 days	-	-
n-butyl acetate	TEPA and OECD 301D	83 % - Readily - 28 days	-	-
2-methoxy-1-methylethyl acetate	-	83 % - Readily - 28 days	-	-
ethylbenzene	-	79 % - Readily - 10 days	-	-
Hydrocarbons, C9, aromatics	-	75 % - Readily - 28 days	-	-

Conclusion/Summary : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-butoxyethyl acetate	-	-	Readily
xylene	-	-	Readily
n-butyl acetate	-	-	Readily
2-methoxy-1-methylethyl acetate	-	-	Readily
ethylbenzene	-	-	Readily
Hydrocarbons, C9, aromatics	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2-butoxyethyl acetate	1.51	-	low
xylene	3.12	7.4 to 18.5	low
n-butyl acetate	2.3	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low
ethylbenzene	3.6	79.43	low
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0.99	-	low

12.4 Mobility in soil

Soil/water partition coefficient (Koc)	: Not available.
Mobility	: Not available.

12.5 Results of PBT and vPvB assessment

English (GB)

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/83	Conforms to Regulation	(EC) No.	1907/2006 (REACH)	, Annex II.	, as amended b	y Re	gulation	(EU) No. 2015/830
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Date of issue/Date of revision

: 27 January 2022

SLOW HARDENER FOR POLYURETHANE PRIMER

SECTION 12: Ecological information

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

: Yes.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Ρ	rc	hd	• •	C	F
_		<u> </u>	-	0	•

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste

European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
Packaging	- -
Methods of disposal	 The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Type of packaging	European waste catalogue (EWC)
Container	15 01 04 metallic packaging
Special precautions	: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL
14.3 Transport hazard class(es)	3	3	3	3
14.4 Packing group	111	111	111	III
14.5 Environmental hazards	No.	Yes.	No.	No.
English (Gl	В)	United Kingdom (I	uk)	17/20

SLOW HARDENER	2/E5	Date of issue/Da	te of revision :	27 January 2022
	FOR POLYURETHANE	PRIMER		
14. Transpor	t information			
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.	Not applicable.
Additional informati ADR/RID :	ion None identified.			
Tunnel code :	(D/E) The product is only regul	ated as an environmentall	y hazardous substance w	/hen transported in tanl
IMDG :	vessels. None identified.			
	None identified.			
14.7 Transport in bu according to IMO	Ik : Not applica	ble.		
an a farmer a sector				
nstruments				
	Regulatory inforn	nation		
SECTION 15: I	and environmental regu	lations/legislation specif	ic for the substance or	mixture
SECTION 15: I 15.1 Safety, health a <u>EU Regulation (EC</u>	and environmental regulation (REACH	lations/legislation specif <u>1)</u>	ic for the substance or	mixture
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List o	and environmental regu	lations/legislation specif <u>1)</u>	ic for the substance or	mixture
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV	and environmental regula) No. 1907/2006 (REACH of substances subject to	lations/legislation specif <u>1)</u>	ic for the substance or	mixture
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV None of the comp	and environmental regulation in the second s	lations/legislation specif <u>1)</u>	ic for the substance or	mixture
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV None of the comp Substances of v	and environmental regula) No. 1907/2006 (REACH of substances subject to	lations/legislation specif <u>1)</u>	ic for the substance or	mixture
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV None of the comp Substances of y None of the comp Annex XVII - Rest	and environmental regulation in the second s	lations/legislation specif <u>1)</u>		
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV None of the comp Substances of w None of the comp Annex XVII - Rest on the manufacture	and environmental regul b) No. 1907/2006 (REACH of substances subject to bonents are listed. rery high concern bonents are listed. crictions : As from Augure, use.	lations/legislation specif <u>1)</u> <u>o authorisation</u>		
SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV None of the comp Substances of y None of the comp Annex XVII - Rest	and environmental regulations in the second	lations/legislation specif <u>1)</u> <u>o authorisation</u>		
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SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV None of the comp Substances of v None of the comp Annex XVII - Rest on the manufactu placing on the ma and use of certain dangerous subst mixtures and arti	and environmental regul and environmental regul b) No. 1907/2006 (REACH of substances subject to bonents are listed. arrey high concern bonents are listed. arrictions : As from Augure, use. arket n ances, cles	lations/legislation specif <u>1)</u> <u>5 authorisation</u> gust 24 2023 adequate tra		
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SECTION 15: I 15.1 Safety, health a EU Regulation (EC Annex XIV - List of Annex XIV - List of Annex XIV None of the comp Substances of v None of the comp Annex XVII - Rest on the manufactu placing on the manufactu places of certain dangerous subst mixtures and artii Ozone depleting s Not listed.	and environmental regul and environmental regul b) No. 1907/2006 (REACH of substances subject to bonents are listed. arrey high concern bonents are listed. arrictions : As from Augure, use. arket n ances, cles	lations/legislation specif <u>1)</u> <u>5 authorisation</u> gust 24 2023 adequate tra		
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Conforms	Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830				
Code	: 9-572/E5	Date of issue/Date of revision	: 27 January 2022		
SLOW H	ARDENER FOR POLYURETH	HANE PRIMER			
SECTI	ON 16: Other inform	ation			
🖊 Indica	tes information that has chang	ged from previously issued version.			
Abbrevia	tions and acronyms				

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

PBT = Persistent, Bioaccumulative and Toxic

vPvB = Very Persistent and Very Bioaccumulative

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

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

IMDG = International Maritime Dangerous Goods

IATA = International Air Transport Association

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

Classification	Justification
Fam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

English (GB)	United Kingdom (UK)	19/20
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3	
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2	
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2	
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1	
Asp. Tox. 1	ASPIRATION HAZARD - Category 1	
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3	
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2	
Acute Tox. 4	ACUTE TOXICITY - Category 4	
Cute Tox. 1	ACUTE TOXICITY - Category 1	
Full text of classifications [CLP/GHS]		
EUH066	Repeated exposure may cause skin dryness or cracking.	
H412	Harmful to aquatic life with long lasting effects.	
H411	Toxic to aquatic life with long lasting effects.	
	exposure.	
H373	May cause damage to organs through prolonged or repeated	t
H336	May cause drowsiness or dizziness.	
H335	May cause respiratory irritation.	
	inhaled.	
H334	May cause allergy or asthma symptoms or breathing difficult	ies if
H332	Harmful if inhaled.	
H330	Fatal if inhaled.	
H319	Causes serious eye irritation.	
H318	Causes serious eye damage.	
H317	May cause an allergic skin reaction.	
H315	Causes skin irritation.	
H312	Harmful in contact with skin.	
H304	May be fatal if swallowed and enters airways.	
H302	Harmful if swallowed.	
H226	Flammable liquid and vapour.	
H225	Highly flammable liquid and vapour.	

Code <th::9-572 e5<="" th=""> Date of issue/Date of revision : 27 January 2022 SLOW HARDENER FOR POLYURETHANE PRIMER</th::9-572>				
SECTION 16: Other information				
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1			
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2			
Skin Sens. 1	SKIN SENSITISATION - Category 1			
Skin Sens. 1B	SKIN SENSITISATION - Category 1B			
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE Category 2			
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3			
STOT SE 3 				

revision	
Date of previous issue	: 12 February 2021
Prepared by	: EHS
Version	: 3

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.