

SAFETY DATA SHEET

ARBOFLEX

ARBOFLEX® PU PRIMER

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

1.1 Product identifier

Product name : ARBOFLEX® PU PRIMER

Product description : Primer to increase bonding and improve the surface levelling of substrates prior to the application of ARBOFLEX® PU.

Other means of identification : Not available.

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

Identified uses	
Primer to increase bonding and improve the surface levelling of substrates prior to the application of ARBOFLEX® PU.	
Uses advised against	Reason
For professional users only.	-

1.3 Details of the supplier of the safety data sheet

Carlisle Construction Materials Ltd.
Lancaster House, Concorde Way,
Millennium Business Park,
Mansfield
Nottinghamshire,
NG19 7DW
United Kingdom

01623 627285

e-mail address of person responsible for this SDS : SDSQueries@carlisleccm.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : National Poisons Information Service (NPIS)
Tel: 0344 892 0111 (for healthcare professionals only)
Website: <http://www.npis.org/>
Members of Public in England, Scotland and Wales can contact NHS 111/NHS 24 by dialling 111. In Northern Ireland contact your local GP.

Supplier

Telephone number : +44 (0)1623 627285
(Office hours: 8.30 - 17.00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Resp. Sens. 1, H334
Skin Sens. 1, H317
Carc. 2, H351

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SECTION 2: Hazards identification

STOT SE 3, H335
 STOT RE 2, H373
 Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 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

Hazard pictograms



Signal word

: Danger

Hazard statements

: H226 - Flammable liquid and vapor.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H332 - Harmful if inhaled.
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 - May cause respiratory irritation.
 H351 - Suspected of causing cancer.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260 - Do not breathe vapor or spray.

Response

: P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Storage

: P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal

: Not applicable.

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

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

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

Tactile warning of danger

: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

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

Other hazards which do not result in classification

: Persons already sensitized to diisocyanates may develop allergic reactions when using this product.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Classification	Type
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥25 - <50	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 (ears) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
2,3-diisocyanatobicyclo[4.1.0]hepta-1(6),2,4-triene;ethane-1,2-diamine; 2-methyloxirane;propane-1,2-diol	CAS: 67815-87-6	≥25 - <50	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373	[1]
diphenylmethane-diisocyanate, isomers and homologues	CAS: 9016-87-9	≥20 - <25	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373	[1] [2]
o-(p-isocyanatobenzyl)phenyl isocyanate	REACH #: 01-2119480143-45 EC: 227-534-9 CAS: 5873-54-1 Index: 615-005-00-9	<5	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373	[1] [2]
4,4'-methylenediphenyl diisocyanate	REACH #: 01-2119457014-47 EC: 202-966-0 CAS: 101-68-8 Index: 615-005-00-9	<5	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373	[1] [2]
2,2'-methylenediphenyl diisocyanate	REACH #: 01-2119927323-43 EC: 219-799-4 CAS: 2536-05-2 Index: 615-005-00-9	<1	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 See Section 16 for the full text of the H statements declared above.	[1] [2]

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.

Type

SECTION 3: Composition/information on ingredients

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- 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

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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SECTION 4: First aid measures

- 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. Persons already sensitized to diisocyanates may develop allergic reactions when using this product.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapor. 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 dioxide
carbon monoxide
nitrogen oxides

5.3 Advice for firefighters

- Special protective actions 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized 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 spilled 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 materials 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.

SECTION 6: Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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 : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor 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.

Advice on general occupational 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.

7.2 Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 20°C (68°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 oxidizing 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
xylene	EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-, p- or mixed isomers] Absorbed through skin. STEL: 441 mg/m ³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 220 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes.
diphenylmethane-diisocyanate, isomers and homologues	EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitizer. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours.
o-(p-isocyanatobenzyl)phenyl isocyanate	EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitizer. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours.
4,4'-methylenediphenyl diisocyanate	EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitizer. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours.
2,2'-methylenediphenyl diisocyanate	EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitizer. STEL: 0.07 mg/m ³ , (as -NCO) 15 minutes. TWA: 0.02 mg/m ³ , (as -NCO) 8 hours.

Biological exposure indices

Product/ingredient name	Exposure indices
xylene	EH40/2005 BMGVs (United Kingdom (UK), 8/2018) [Xylene, o-, m-, p- or mixed isomers] BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.
diphenylmethane-diisocyanate, isomers and homologues	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Isocyanates] BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.
o-(p-isocyanatobenzyl)phenyl isocyanate	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Isocyanates] BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.
4,4'-methylenediphenyl diisocyanate	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Isocyanates] BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.
2,2'-methylenediphenyl diisocyanate	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Isocyanates] BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects	
xylene	DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Systemic	
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Local	
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Systemic	
	DNEL	Short term Inhalation	260 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	260 mg/m ³	General population	Systemic	
	DNEL	Short term Inhalation	442 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	442 mg/m ³	Workers	Systemic	
	o-(p-isocyanatobenzyl)phenyl isocyanate	DNEL	Long term Inhalation	0.025 mg/m ³	General population	Local
		DNEL	Short term Inhalation	0.05 mg/m ³	General population	Local
		DNEL	Long term Inhalation	0.05 mg/m ³	Workers	Local
DNEL		Short term Inhalation	0.1 mg/m ³	Workers	Local	
4,4'-methylenediphenyl diisocyanate	DNEL	Long term Inhalation	0.025 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	0.05 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	0.05 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	0.1 mg/m ³	Workers	Local	
2,2'-methylenediphenyl diisocyanate	DNEL	Long term Inhalation	0.025 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	0.05 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	0.05 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	0.1 mg/m ³	Workers	Local	

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
xylene	Fresh water	0.044 mg/l	-
	Fresh water	0.01 mg/l	-
	Marine water	0.004 mg/l	-
	Marine water	0.001 mg/l	-
	Sewage Treatment Plant	1.6 mg/l	-
	Fresh water sediment	2.52 mg/kg	-
	Marine water sediment	0.252 mg/l	-
	Soil	0.852 mg/kg	-
o-(p-isocyanatobenzyl)phenyl isocyanate	Fresh water	3.7 µg/l	-
	Fresh water	37 µg/l	-
	Marine water	0.37 µg/l	-

SECTION 8: Exposure controls/personal protection

2,2'-methylenediphenyl diisocyanate	Fresh water sediment	11.7 mg/kg	-
	Marine water sediment	1.17 mg/kg	-
	Soil	2.33 mg/kg	-
	Fresh water	3.7 µg/l	-
	Fresh water	37 µg/l	-
	Marine water	0.37 µg/l	-
	Fresh water sediment	11.7 mg/kg	-
	Marine water sediment	1.17 mg/kg	-
	Soil	2.33 mg/kg	-

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, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

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 : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

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. Recommendations for gloves:
 Polychloroprene - CR: thickness ≥ 0.5 mm; breakthrough time ≥ 480 min.
 Nitrile rubber - NBR: thickness ≥ 0.35 mm; breakthrough time ≥ 480 min.
 Butyl rubber - IIR: thickness ≥ 0.5 mm; breakthrough time ≥ 480 min.
 Fluorinated rubber - FKM: thickness ≥ 0.4 mm; breakthrough time ≥ 480 min.

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.

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 appropriate respiratory protection if there is a risk of exceeding any exposure limits. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
 Filter type: organic vapor (Type A) and particulate filter

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.

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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**Appearance**

Physical state	: Liquid.
Color	: Beige. Brown.
Odor	: Characteristic.
Odor threshold	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Not available.
Flash point	: Closed cup: 24°C (75.2°F)
Auto-ignition temperature	:

Ingredient name	°C	°F	Method
xylene	432	809.6	
o-(p-isocyanatobenzyl)phenyl isocyanate	>601	>1113.8	EU A.15
4,4'-methylenediphenyl diisocyanate	>601	>1113.8	EU A.15
2,2'-methylenediphenyl diisocyanate	>601	>1113.8	EU A.15

Decomposition temperature	: Not available.
pH	: Not available.
Viscosity	: Dynamic: 10000 mPa·s
Solubility in water	: Not available.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapor pressure	:

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
xylene	6.7	0.89				
2,2'-methylenediphenyl diisocyanate	0.000061	0.0000081	OECD 104			
o-(p-isocyanatobenzyl)phenyl isocyanate	0.00001	0.0000013	EU A.4			
4,4'-methylenediphenyl diisocyanate	0.0000052	0.00000069				

Relative density	: 1.02
Vapor density	: Not available.
Explosive properties	: Not available.
Oxidizing properties	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

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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** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:
oxidizing materials
combustible materials
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
monomeric isocyanates

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Oral	Rat	4300 mg/kg	-
2,3-diisocyanatobicyclo [4.1.0]hepta-1(6),2,4-triene; ethane-1,2-diamine; 2-methyloxirane;propane-1,2-diol	LD50 Oral	Rat	>2000 mg/kg	-
diphenylmethane-diisocyanate, isomers and homologues	LC50 Inhalation Vapor	Rat	490 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	49 g/kg	-
o-(p-isocyanatobenzyl) phenyl isocyanate	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
4,4'-methylenediphenyl diisocyanate	LD50 Oral	Rat	9200 mg/kg	-
2,2'-methylenediphenyl diisocyanate	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Conclusion/Summary : Acute Tox. 4 Inhalation

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)

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SECTION 11: Toxicological information

ARBOFLEX® PU PRIMER	N/A	3143.3	N/A	11.6	36.2
xylene	4300	1100	N/A	11	N/A
2,3-diisocyanatobicyclo[4.1.0]hepta-1(6),2,4-triene; ethane-1,2-diamine;2-methyloxirane;propane-1,2-diol	N/A	N/A	N/A	11	N/A
diphenylmethane-diisocyanate, isomers and homologues	49000	N/A	N/A	11	N/A
o-(p-isocyanatobenzyl)phenyl isocyanate	N/A	N/A	N/A	N/A	1.5
4,4'-methylenediphenyl diisocyanate	9200	N/A	N/A	11	N/A
2,2'-methylenediphenyl diisocyanate	N/A	N/A	N/A	N/A	1.5

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
diphenylmethane-diisocyanate, isomers and homologues	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Moderate irritant	Rabbit	-	100 mg	-

Conclusion/Summary

- Skin** : Skin Irrit. 2
- Eyes** : Eye Irrit. 2
- Respiratory** : STOT SE 3 respiratory tract irritation

Sensitization

Conclusion/Summary

- Skin** : Skin Sens. 1
- Respiratory** : Resp. Sens. 1

Mutagenicity

Conclusion/Summary

: Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary

: Carc. 2

Reproductive toxicity

Conclusion/Summary

: Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary

: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 3	-	Respiratory tract irritation
2,3-diisocyanatobicyclo[4.1.0]hepta-1(6),2,4-triene;ethane-1,2-diamine;2-methyloxirane;propane-1,2-diol	Category 3	-	Respiratory tract irritation
diphenylmethane-diisocyanate, isomers and homologues	Category 3	-	Respiratory tract irritation
o-(p-isocyanatobenzyl)phenyl isocyanate	Category 3	-	Respiratory tract irritation
4,4'-methylenediphenyl diisocyanate	Category 3	-	Respiratory tract irritation
2,2'-methylenediphenyl diisocyanate	Category 3	-	Respiratory tract irritation

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SECTION 11: Toxicological information**Specific target organ toxicity (repeated exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 2	-	ears
2,3-diisocyanatobicyclo[4.1.0]hepta-1(6),2,4-triene;ethane-1,2-diamine;2-methyloxirane;propane-1,2-diol	Category 2	-	-
diphenylmethane-diisocyanate, isomers and homologues	Category 2	-	-
o-(p-isocyanatobenzyl)phenyl isocyanate	Category 2	-	-
4,4'-methylenediphenyl diisocyanate	Category 2	-	-
2,2'-methylenediphenyl diisocyanate	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
xylene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects : Irritating to eyes, respiratory system and skin.
May cause skin sensitization.
Respiratory sensitization

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

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SECTION 11: Toxicological information

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Daggerblade grass shrimp - <i>Palaemonetes pugio</i>	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
2,3-diisocyanatobicyclo[4.1.0]hepta-1(6),2,4-triene;ethane-1,2-diamine;2-methyloxirane; propane-1,2-diol	Acute EC50 >1640 mg/l Fresh water	Algae	72 hours
	Acute LC50 >1000 mg/l Fresh water Chronic NOEC >10 mg/l Fresh water Acute EC50 >1640 mg/l Fresh water	Fish Daphnia Algae - <i>Scenedesmus subspicatus</i>	96 hours 21 days 72 hours
diphenylmethane-diisocyanate, isomers and homologues o-(p-isocyanatobenzyl) phenyl isocyanate	Acute LC50 >1000 mg/l Fresh water	Fish - <i>Brachydanio rerio</i>	96 hours
	Chronic NOEC 10 mg/l Fresh water Acute LC50 >1000 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> Fish - <i>Brachydanio rerio</i>	21 days 96 hours
4,4'-methylenediphenyl diisocyanate	Chronic NOEC 10 mg/l Fresh water Acute LC50 >1000 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> Fish - <i>Brachydanio rerio</i>	21 days 96 hours
	Chronic NOEC 10 mg/l Fresh water Acute LC50 >1000 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> Fish - <i>Brachydanio rerio</i>	21 days 96 hours
2,2'-methylenediphenyl diisocyanate	Chronic NOEC 10 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days

Conclusion/Summary : Aquatic Chronic 3

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3.12	8.1 to 25.9	Low
o-(p-isocyanatobenzyl) phenyl isocyanate	4.51	200	Low
4,4'-methylenediphenyl diisocyanate	4.51	200	Low
2,2'-methylenediphenyl diisocyanate	5.22	200	Low

12.4 Mobility in soil

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SECTION 12: Ecological information

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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.

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

Product

Methods of disposal : The generation of waste should be avoided or minimized 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 : Yes.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
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	III	III	III	III
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 30
Limited quantity 5 L
Special provisions 163, 650, 367
Tunnel code (D/E)

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SECTION 14: Transport information

- ADN** : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
Special provisions 163, 367, 650
- IMDG** : **Emergency schedules** F-E, _S-E_
Special provisions 163, 223, 367, 955
- IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
Special provisions A3, A72, A192

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
ARBOFLEX® PU PRIMER	≥90	3
o-(p-isocyanatobenzyl)phenyl isocyanate	<5	56 [Consumer products] 74
4,4'-methylenediphenyl diisocyanate	<5	56 [Consumer products] 74
2,2'-methylenediphenyl diisocyanate	<1	56 [Consumer products] 74

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

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c

EU regulations

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SECTION 15: Regulatory information

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

International regulations**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Eurasian Economic Union : **Russian Federation inventory**: Not determined.
Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = GB CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification**Date of issue**/Date of revision

2 May 2024

Date of previous issue

: No previous validation

Version : 1

17/18

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SECTION 16: Other information

Classification	Justification
Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Resp. Sens. 1	RESPIRATORY SENSITIZATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

Date of printing	: 2 May 2024
Date of issue/ Date of revision	: 2 May 2024
Date of previous issue	: No previous validation
Version	: 1

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.