

1. IDENTIFICATION OF THE SUBSTRATE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name/designation: Caltech Fibreforce

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

Relevant identified uses: Paint Coating.

Recommended restrictions: Reserved for industrial and professional use.

1.3 Supplier details

Alumasc Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, Merseyside, United Kingdom, WA9 4JG
Tel: +44 (0)1744 648400
e-mail: technical@alumascroofing.com

1.4 Emergency telephone number

Association / Organisation: National Poisons Information Service
Emergency telephone numbers: 0344 892 0111 (Healthcare professionals only)
Other emergency telephone numbers Alumasc Building Products: +44 17 4464 8400
(Mon-Thurs – 08.30-17.00 Fri – 08.30-16.00)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP][1]:

Skin Sens. 1, H317 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

Hazard pictures:



Signal word:

Warning.

Hazardous component(s) to be indicated on label:

1,6-Hexanediyl-Bis(2-(2-(1-Ethylpentyl)-3-Oxazolidinyl)Ethyl)Carbamate.
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretdione).
Polyhexamethylene Diisocyanate.
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers.
2-Ethylhexanal.
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate.
Maleic Anhydride.

Hazard statements:

H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Supplementary statements:

EUH204 - Contains isocyanates. May produce an allergic reaction.
EUH211 - Warning! Hazardous respirable droplets may be formed when sprayed.
Do not breathe spray or mist.

Precautionary statements prevention:

P280 - Wear protective gloves.
P284 - In case of inadequate ventilation wear respiratory protection.

Precautionary statements response: P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statements storage: Not applicable.

Precautionary statements disposal: P501: Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Supplemental label elements : Detergents - Regulation (EC) No 907/2006:

Not applicable

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:

None known.

3. COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

3.1 Substances

See 'Composition on ingredients' in Section 3.2.

3.2 Mixtures

United Kingdom: Great Britain:

Ingredient	Numbers	Classification (EC) 1272/2008	Concentration	Specific Conc. Limits, M-factors and ATEs	Type
1,6-Hexanediyl-Bis (2-(2- (1-Ethylpentyl) – 3-Oxazolidinyl)Ethyl) Carbamate	EC: 411-700-4 CAS: 140921-24-0 Index: 616-079-00-5	Skin Sens. 1, H317	≤10	-	[1]
Solvent Naphtha (Petroleum), Light Arom	REACH #: 01-2119455851-35 EC: 265-199-0 CAS: 64742-95-6 Index: 649-356-00-4	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	≤5	-	[1]
Propylene Carbonate	EC: 203-572-1 CAS: 108-32-7 Index: 607-194-00-1	Eye Irrit. 2, H319	≤5	-	[1]

Ingredient	Numbers	Classification (EC) 1272/2008	Concentration	Specific Conc. Limits, M-factors and ATEs	Type
Reaction Mass Of 2-Ethylhexyl (3-Isocyanato-4-Methylphenyl) Carbamate and 2-Ethylhexyl (5-Isocyanato-2-Methylphenyl) Carbamate and 2-Ethylhexyl (3-Isocyanato-2-Methylphenyl) Carbamate	REACH #: 01-2120800690-65	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Repr. 2, H361fd Aquatic Chronic 4, H413	≤3	-	[1]
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretdione)	REACH #: 01-2119488177-26 CAS: 28182-81-2	Acute Tox. 3, H331 Skin Sens. 1, H317 STOT SE 3, H335	≤3	ATE [Inhalation (dusts and mists)] = 0,5 mg/l	[1] [2]
Polyhexamethylene Diisocyanate	REACH #: 01-2119485796-17 CAS: 28182-81-2	Acute Tox. 3, H331 Skin Sens. 1, H317 STOT SE 3, H335	≤3	ATE [Inhalation (dusts and mists)] = 1,5 mg/l	[1] [2]
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	REACH #: 01-2119488734-24 EC: 500-125-5 CAS: 53880-05-0	Skin Sens. 1B, H317 STOT SE 3, H335	≤3	-	[1] [2]
(Bis(Isopropyl) Naphthalene)	REACH #: 01-2119565150-48 EC: 254-052-6 CAS: 38640-62-9	Asp. Tox. 1, H304 Aquatic Chronic 1, H410	≤3	M [Chronic] = 1	[1]
2-Ethylhexanal	EC: 204-596-5 CAS: 123-05-7	Flam. Liq. 3, H226 Skin Sens. 1B, H317 Repr. 2, H361	≤0,3	-	
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate	EC: 223-861-6 CAS: 4098-71-9 Index: 615-008-00-5	Acute Tox. 1, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	≤0,1	ATE [Inhalation (dusts and mists)] = 0,031 mg/l Resp. Sens. 1, H334: C ≥ 0,5% Skin Sens. 1, H317: C ≥ 0,5%	[1] [2]
Maleic Anhydride	REACH #: 01-2119472428-31 EC: 203-571-6 CAS: 108-31-6 Index: 607-096-00-9	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372 (inhalation) EUH071	≤0,1	ATE [Oral] = 400 mg/kg Skin Sens. 1, H317: C ≥ 0,001%	[1] [2]

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.

Type:

[1] Substance classified with a health or environmental hazard.

List numbers have no legal significance.

This mixture contains ≥ 1% of titanium dioxide. The Annex VI classification of titanium dioxide does not apply to this mixture according to Note 10.

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

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 if irritation occurs.
- 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.
- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 adverse health effects persist or are severe. 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
- 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 if adverse health effects persist or are severe. 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. 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:** No specific data.
- Inhalation:** No specific data.
- 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.

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.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Use an extinguishing agent suitable for the surrounding fire.

Extinguishing media which must not be used for safety reasons:

None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture:

In a fire or if heated, a pressure increase will occur and the container may burst.

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
- Sulfur Oxides
- Halogenated Compounds
- Metal Oxide/Oxides

5.3 Advice for fire-fighters

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.

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 European standard EN 469 will provide a basic level of protection for chemical incidents.

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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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. 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. 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.

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.

7. HANDLING AND STORAGE

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 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 ingest.

Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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

Store in accordance with local regulations. 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. 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.

7.3 Specific end use(s)

Recommendation:

Not available.

Industrial sector specific solutions:

Not available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits / Biological exposure indices:

United Kingdom: Great Britain:

Product/ingredient name	Exposure limit values
Hexamethylene-1,6-Diisocyanate Oligomer (type Uretidione)	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.
Polyhexamethylene Diisocyanate	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.
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	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.

Recommended monitoring procedures:

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/DMELs:

Product/ingredient name	Type	Exposure	Value	Population	Effects
Solvent Naphtha (Petroleum), Light Arom.	DNEL	Long term Dermal	25 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	150 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	11 mg/kg	General population	Systemic
	DNEL	Long term Inhalation	32 mg/m ³	General population	Systemic
	DNEL	Long term Oral	11 mg/kg	General population	Systemic
	DNEL	Short term Inhalation	0,7 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,35 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,5 mg/m ³	Workers	Local
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	DNEL	Long term Oral	2,1 mg/kg bw/day	General population [Consumers]	Systemic
		Long term Dermal	2,1 mg/kg bw/day	General population [Consumers]	Systemic

Product/ingredient name	Type	Exposure	Value	Population	Effects
Polyhexamethylene Diisocyanate	DNEL	Long term Inhalation	7,4 mg/m ³	General population [Consumers]	Systemic
Bis(Isopropyl)Naphthalene)	DNEL	Long term Dermal	4,3 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	bw/day		
	DNEL	Short term Inhalation	30 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	0,8 mg/m ³	Workers	Systemic
Maleic Anhydride	DNEL	Long term Inhalation	0,04 mg/kg	Workers	Systemic
			0,4 mg/m ³	Workers	Systemic

PNECs:

Product/ingredient name	Compartment Detail	Value	Method Detail
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretdione)	Fresh water	>0,05 mg/l	-
	Marine	>0,005 mg/l	-
	Fresh water sediment	>1,33 mg/kg dwt	-
	Marine water sediment	>0,133 mg/kg dwt	-
	Soil	>0,066 mg/kg dwt	-
	Sewage treatment plant	55,6 mg/l	-
Polyhexamethylene Diisocyanate	Fresh water	0,127 mg/l	-
	Marine	0,0127 mg/l	-
	Fresh water sediment	266700 mg/kg dwt	-
	Marine water sediment	26670 mg/kg dwt	-
	Soil	53182 mg/kg dwt	-
	Sewage treatment plant	38,28 mg/l	-
(Bis(Isopropyl)Naphthalene)	Sewage treatment plant	0,15 mg/l	-
	Fresh water	0,26 µg/l	-
	Marine	0,026 µg/l	-
	Fresh water sediment	0,94 mg/kg dwt	-
	Marine water sediment	0,094 mg/kg dwt	-
	Soil	0,19 mg/kg dwt	-
Maleic Anhydride	Fresh water	0,04281 mg/l	-
	Marine water	0,004281 mg/l	-
	Soil	0,0415 mg/l	-
	Fresh water sediment	0,334 mg/kg	-
	Marine water sediment	0,0334 mg/kg	-
	Sewage Treatment Plant	44,6 mg/l	-

8.2 Exposure controls

8.2.1. Appropriate engineering Controls:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
8.2.2. Personal protection:	
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 and 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. Use eye protection according to EN 166. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields.
Skin protection:	There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. The breakthrough time must be greater than the end use time of the product. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly.

	The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
Hands 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. > 8 hours (breakthrough time): nitrile rubber (0.5mm) gloves The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. 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.
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. Recommended: Wear overalls or long sleeved shirt. (EN 467)
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:	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. Recommended: organic vapour (Type A) and particulate filter (EN 141)
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Important health, safety and environmental information

Physical state:	Liquid	Colour:	Grey
Form:	Liquid	Relative density [g/cm³]	Not available
Odour:	Not available	Temperature [°C]:	Not available
Odour threshold:	Not available	Density:	1,38 to 1,428 g/cm³ [20°C (68°F)] [DIN 53217]
pH:	Not applicable	Partition coefficient n-octanol/water:	Not applicable
pH : Justification:	Product is non-soluble (in water)	Auto-ignition temperature (°C):	Not relevant due to nature of the product
Melting point/freezing point (°C):	Not determined	Decomposition temperature:	Not available
Initial boiling point and boiling range (°C):	Not relevant due to nature of the product	Viscosity (cSt):	Dynamic: 15000 mPa·s [DIN EN ISO 3219] Kinematic: 10504 to 10870 mm²/s [calculated]
Flash point (°C):	Closed cup: 102°C (215,6°F) [Literature]	Explosive properties:	Not available
Evaporation rate [kg/(s m²)]:	Not available	Vapour pressure (kPa):	<0,13 kPa (<1 mm Hg) [Literature]
Explosion limits [Vol-%]:	Not available	Vapour density (Air = 1):	Not available
Flammability (solid, gas):	Not available	Solubility in water [g/l]:	Not available
Lower Explosive Limit (%):	Not available	Cold water	Not soluble
Upper Explosive Limit (%):	Not available	Hot water	Not soluble
Oxidising properties:	Not available	Particle size:	Not applicable

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

No specific data.

10.5 Incompatible materials

No specific data.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Result	Species	Dose	Exposure
Solvent Naphtha (Petroleum), Light Arom.	LD50 Oral	Rat	8400 mg/kg	-
Propylene Carbonate	LD50 Oral	Rat	>5000 mg/kg	-
Hexamethylene- 1,6-Diisocyanate Oligomer (Type Uretthane)	LC50 Inhalation dusts and mists	Rat	18500 mg/m ³	1 hours
Polyhexamethylene Diisocyanate	LC50 Inhalation dusts and mists	Rat	0,158 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation dusts and mists	Rat – female	0,39 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
3-Isocyanatomethyl- 3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	LC50 Inhalation dusts and mists	Rat	>5 mg/l	4 hours
(Bis(Isopropyl)Naphthalene)	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation vapour	Rat	5,64 mg/l	4 hours
	LD50 Dermal	Rat	>4500 mg/kg	-
	LD50 Oral	Rat	>4000 mg/kg	-
2-Ethylhexanal	LD50 Dermal	Rabbit	4135 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-
3-Isocyanatomethyl- 3,5,5-Trimethylcyclohexyl Isocyanate	LC50 Inhalation dusts and mists	Rat	0,031 mg/l	4 hours
Maleic Anhydride	LD50 Dermal	Rabbit	2620 mg/kg	-
	LD50 Oral	Rat	400 mg/kg	-

Conclusion/Summary:

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

Acute toxicity estimates:

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Solvent Naphtha (Petroleum), Light Arom.	8400	N/A	N/A	N/A	N/A
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	N/A	N/A	N/A	N/A	0,5
Polyhexamethylene Diisocyanate	N/A	N/A	N/A	N/A	1,5
2-Ethylhexanal	2600	4135	N/A	N/A	N/A
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate	N/A	N/A	N/A	N/A	0,031
Maleic Anhydride	400	2620	N/A	N/A	N/A

Irritation/Corrosion:

Product/ingredient name	Result	Species	Score	Exposure	Observation
Solvent Naphtha (Petroleum), Light Arom.	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
Propylene Carbonate	Eyes - Moderate irritant	Rabbit	-	60 milligrams	-
	Skin - Moderate irritant	Human	-	72 hours 100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	Intermittent 500 milligrams	-
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	Eyes - Cornea opacity	Rabbit	1	-	-
	Skin - Oedema	Rabbit	1	4 hours	-
	Eyes - Cornea opacity	Rabbit	1	-	-
Polyhexamethylene Diisocyanate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Oedema	Rabbit	1	4 hours	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	Eyes - Cornea opacity	Rabbit	1	-	-
(Bis(Isopropyl)Naphthalene)	Skin - Oedema	Rabbit	0	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-
	Skin - Oedema	Rabbit	0	-	-
2-Ethylhexanal	Skin - Mild irritant	Rabbit	-	425 milligrams	-
Maleic Anhydride	Eyes - Severe irritant	Rabbit	-	1 Percent	-

Conclusion/Summary

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

Sensitisation:

Product/ingredient name	Route of exposure	Species	Result
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	Skin	Guinea pig	Sensitising
Polyhexamethylene Diisocyanate	Respiratory	Guinea pig	Not Sensitising
	Skin	Guinea pig	Sensitising
	Skin	Mouse	Sensitising
	Skin	Guinea pig	Sensitising
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	Skin	Mouse	Sensitising
	Skin	Rabbit	Sensitising
(Bis(Isopropyl)Naphthalene)	Skin	Guinea pig	Not sensitizing

Conclusion/Summary:

Skin: May cause an allergic skin reaction.
Respiratory: Based on available data, the classification criteria are not met.

Mutagenicity:

Product/ingredient name	Test	Experiment	Result
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretdione)	OECD 476	Subject: Mammalian-Animal	Positive
Polyhexamethylene Diisocyanate	OECD 471 OECD 471	Subject: Bacteria Subject: Bacteria	Negative Negative
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	OECD 476 OECD 471	Subject: Mammalian-Animal Experiment: In vitro Subject: Bacteria	Negative Negative
(Bis(Isopropyl)Naphthalene)	OECD 473 OECD 471	Experiment: In vitro Subject: Mammalian-Animal Experiment: In vitro Subject: Bacteria	Negative Negative

Conclusion/Summary:

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

Carcinogenicity:

It has been observed that the carcinogenic hazard of this product arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung.

Product/ingredient name	Result	Species	Dose	Exposure
(Bis(Isopropyl)Naphthalene)	Negative - Route of exposure unreported - TD	Rat	-	-

Conclusion/Summary:

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

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
Solvent Naphtha (Petroleum), Light Arom.	Category 3	-	Respiratory tract irritation
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretdione)	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
Polyhexamethylene Diisocyanate	Category 3	-	Respiratory tract irritation
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	Category 3	-	Respiratory tract irritation
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
Maleic Anhydride	Category 1	Inhalation	-

Aspiration hazard:

Product/ingredient name	Result
Solvent Naphtha (Petroleum), Light Arom. (Bis(Isopropyl)Naphthalene)	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes: of exposure:

Not available.

Potential acute health effects:

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: 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: No specific data.
inhalation: No specific data.
Skin contact: Adverse symptoms may include the following:
Irritation
Redness
Ingestion: No specific data.

Delayed and immediate effects 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 effects:

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene- 1,6-Diisocyanate Oligomer (Type Uretdione) Polyhexamethylene Diisocyanate	Sub-acute NOAEL Inhalation dusts and mists	Rat	0,41 mg/m³	6 hours; 5 days per week Intermittent
	Sub-chronic LC50 Inhalation dusts and mists	Rat	14,7 mg/m³	6 hours; 5 days per week Intermittent
	Sub-acute LC50 Inhalation dusts and mists	Rat	89,9 mg/m³	6 hours; 5 days per week Intermittent
	Sub-acute LCLo Inhalation dusts and mists	Rat	4,3 mg/m³	6 hours; 5 days per week Intermittent
	Chronic NOAEL Inhalation dusts and mists	Rat	3,3 mg/m³	6 hours; 5 days per week Intermittent
(Bis(Isopropyl)Naphthalene)	Chronic NOAEL Oral	Rat	170 mg/kg	6 months

Conclusion/Summary:

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

General: 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.

11.2 Additional information

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	Acute EC50 5560 mg/l	Bacteria	3 hours
	Acute EC50 >100 mg/l	Daphnia spec.	48 hours
	Acute IC50 >1000 mg/l	Algae - <i>Scenedesmus subspicatus</i>	72 hours
Polyhexamethylene Diisocyanate	Acute LC50 >100 mg/l	Fish	96 hours
	Acute EC50 >10000 mg/l	Bacteria	3 hours
		Daphnia spec.	48 hours
(Bis(Isopropyl)Naphthalene)	Acute EC50 >100 mg/l	Algae - <i>Scenedesmus subspicatus</i>	72 hours
	Acute IC50 >1000 mg/l	Fish	96 hours
	Acute LC50 >100 mg/l	Algae	72 hours
	Acute EC10 >0,15 mg/l	Daphnia spec.	48 hours
	Acute EC10 >0,16 mg/l	Fish	96 hours
	Acute LC10 >0,5 mg/l	Daphnia spec.	21 days
Maleic Anhydride	Acute NOEC >0,013 mg/l	Fish - <i>Gambusia affinis</i> - Adult	96 hours
	Acute LC50 230000 µg/l Fresh water		

Conclusion/Summary:

Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Propylene Carbonate	OECD 301B	83,5 to 87,7 % - 29 days	-	-
	OECD 302C	18 % - Not readily - 28 days	-	-
	OECD 301C	1 % - Not readily - 28 days	-	-
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	-	1 % - Not readily - 21 days	-	-
	OECD 301C	2 % - Not readily - 28 days	-	-
	OECD 301F	0 % - Not readily - 28 days	-	-
Polyhexamethylene Diisocyanate				
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers				

Conclusion/Summary:

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Solvent Naphtha (Petroleum), Light Arom.	-	-	Readily
Hexamethylene-1,6-Diisocyanate Oligomer (Type Uretidione)	Fresh water 0,25 days, 23°C	50%; 0.03 day(s)	Not readily
Polyhexamethylene Diisocyanate	Fresh water 0,32 days, 23°C	50%; 0.49 day(s)	Not readily
3-Isocyanatomethyl-3,5,5-Trimethylcyclohexyl Isocyanate, Oligomers	-	-	Not readily

(Bis(Isopropyl)Naphthalene) 3-Isocyanatomethyl- 3,5,5-Trimethylcyclohexyl Isocyanate	Fresh water 2,5 days, 20°C -	>70%; < 28 day(s) -	Readily Not readily
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12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Solvent Naphtha (Petroleum), Light Arom.	-	10 to 2500	High
Propylene Carbonate	-0,41	-	Low
Hexamethylene- 1,6-Diisocyanate Oligomer (Type Uretidione)	5,54 5,54	367,7 367,7	Low Low
Polyhexamethylene Diisocyanate	6,081 3,07	1800 to 6400 -	Low High
(Bis(Isopropyl)Naphthalene) 2-Ethylhexanal	0,99	-	Low Low
3-Isocyanatomethyl- 3,5,5-Trimethylcyclohexyl Isocyanate			
Maleic Anhydride	-2,78	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (KOC): Not available.
Mobility: Non-volatile.

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

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal Considerations:	Disposal of this product and its packaging must comply with all applicable environmental protection and waste disposal legislation, including any requirements set by local authorities. Any unwanted or non-recyclable material should be disposed of through a licensed waste disposal contractor. Transportation of such waste may be subject to ADR (International Carriage of Dangerous Goods by Road) regulations and must be managed in accordance with those requirements.
Waste code:	Uncured product: 08 01 11* waste paint and varnish containing organic solvents or other hazardous substances. Cured product inert residue: 17 09 04 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 Empty metal paint tins with only hardened, inert residue: 15 01 04 metallic packaging
Special precautions:	This material and its container must be disposed of in a safe way. Caution should be exercised when handling empty containers that have not been properly cleaned or rinsed, as they may retain hazardous residues. Spillage and wash water from cleaning tools must be prevented from entering soil, watercourses, drains, or sewer systems. Empty containers should be directed to authorised waste disposal or appropriate local recycling facilities.

Further information available via:	https://www.alumascroofing.com/downloads/disposal-guides/ 
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14. TRANSPORT INFORMATION

Labels required:

	Land transport ADR/RID	Marine transport IMDG	Air transport ICAO/IATA
14.1 UN-No	Not regulated	Not regulated	Not regulated
14.2 Description of the goods	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packaging group	-	-	-
14.5 Environmental hazards	-	-	-

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 applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

Product/ingredient name	%	Designation [Usage]
Caltech Fibreforce Mid Grey	≥90	3
3-Isocyanatomethyl-	≤0,1	74
3,5,5-Trimethylcyclohexyl Isocyanate		
Dibutyltin Dilaurate	≤0,1	1 [Paint]
		20
Methanol	≤0,1	69
Hexamethylene-Di-Isocyanate	≤0,1	74
3-Isocyanatomethyl-	≤0,1	74
3,5,5-Trimethylcyclohexyl Isocyanate		
M-Tolylidene Diisocyanate	≤0,1	74
Decamethylcyclopentasiloxane	≤0,1	70

Labelling:

Other EU regulations:

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture;
VOC: VOC for Ready-for-Use Mixture: 2004/42/EC - IIA/i: 500g/l (2010). ≤= 160g/l VOC.
Industrial emissions (integrated pollution prevention and control) - Air: Not listed
Industrial emissions (integrated pollution prevention and control) - Waste: Not listed
Explosive precursors: Not applicable.

United Kingdom: Great Britain:

UK (GB)/REACH:

Annex XIV - List of substances subject to authorisation:

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.

Aerosol dispensers.

Seveso Directive:

This product is not controlled under the Seveso Directive.

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.

International Regulations:

Stockholm Convention on Persistent Organic Pollutants:

List name / ingredient name / status:

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC):

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals:

List name / ingredient name / status:

Not listed.

CN code:

3208 90 91 00

Inventory list:

Australia	At least one component is not listed.
Canada:	At least one component is not listed.
China:	At least one component is not listed.
Eurasian Economic Union:	Russian Federation inventory: Not determined
Japan:	Japan inventory (CSCL): At least one component is not listed. Japan inventory (ISHL): At least one component is not listed.
New Zealand:	At least one component is not listed.
Philippines:	At least one component is not listed.
Republic of Korea:	At least one component is not listed.
Taiwan:	At least one component is not listed.
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.

16. OTHER INFORMATION

Full text risk and hazard codes:

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.
EUH071 Corrosive to the respiratory tract.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = 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

Wording of the hazard classes:

Flam. Liq.: Flammable liquid
STOT SE: Specific target organ toxicity - single exposure
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitization
Aquatic Chronic: Hazardous to the aquatic environment
Eye Irrit.: Serious eye irritation
Acute Tox.: Acute toxicity
STOT RE: Specific target organ toxicity - repeated exposure
Skin Corr.: Skin corrosion
Eye Dam.: Serious eye damage
Resp. Sens.: Respiratory sensitization

SDS version summary:

Version	Date of Update	Section Updated
1.1	04/08/2023	Template Change
2.0	27/05/2025	Section 13 update

Other information:

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios.

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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