

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

1.1 Product identifier

Trade name/designation: Caltech Clear Glaze – Activator.

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

Relevant identified uses: Paint.

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

Product definition:

Mixture.

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

Acute Tox. 4, H332, Skin Sens. 1B, H317, STOT SE 3, H335.

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.

Hazard statements:

H332 - Harmful if inhaled.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.

Precautionary statements prevention:

P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves and eye protection:
- butyl rubber gloves and Safety glasses with side shields.

Precautionary statements response:

P302 - IF ON SKIN:
P352 - Wash with plenty of soap and water.
P333 - If skin irritation or rash occurs:
P313 - Get medical attention.
P304 - IF INHALED:
P340 - Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary statements storage:

P405 - Store locked up.

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

Hazardous ingredients: Hexamethylene-1,6-Diisocyanate Homopolymer and Hexamethylene-Diisocyanate.

Supplemental label éléments : 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:

Not applicable.

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

Ingredient	Numbers	Concentration	Classification (EC) 1272/2008	Specific Conc. Limits, M-factors and ATEs	Type
Hexamethylene-1,6-Diisocyanate Homopolymer	REACH #: 01-2119485796-17 EC: 931-274-8 CAS: 28182-81-2	≥90	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	-	[1] [2]
Hexamethylene-Diisocyanate	REACH #: 01-2119457571-37 EC: 212-485-8 CAS: 822-06-0 Index: 615-011-00-1	≤0,3	Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	-	[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.

[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.

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

4. FIRST AID MEASURES

4.1 Description of first aid measures

General:	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
Eye contact:	Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
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.
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.
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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details. Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in nonallergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

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. Repeated exposure may lead to permanent respiratory disability.

Repeated or prolonged contact with irritants may cause dermatitis.

Contains hexamethylene-1,6-diiisocyanate homopolymer, hexamethylene-di-isocyanate. May produce an allergic reaction.

Over-exposure signs/symptoms:

Eye contact:	No specific data.
Inhalation:	Adverse symptoms may include the following: Respiratory tract irritation. Coughing.
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:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments:	No specific treatment.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Recommended: alcohol-resistant foam, CO₂, powders, water spray or mist.

Extinguishing media which must not be used for safety reasons:

Do not use water jet.

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.

Hazardous combustion products:

No specific data.

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 spilled 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 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).

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 spill 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

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.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

7.1 Precautions for safe handling

Care should be taken when re-opening partly-used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame. No sparking tools should be used.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Put on appropriate personal protective equipment (see Section 8).
Never use pressure to empty. Container is not a pressure vessel.
Always keep in containers made from the same material as the original one.
Comply with the health and safety at work laws.
Do not allow to enter drains or watercourses.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage:

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions:

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep container tightly closed.
Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Recommendations: Not available.
Industrial sector specific solutions: Not available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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 / Biological exposure indices:

Product/ingredient name	Exposure limit values
Hexamethylene-1,6-Diisocyanate Homopolymer	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.
Hexamethylene-Di-Isocyanate	EH40/2005 WELs (United Kingdom (UK), 12/2011). 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:

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/DMELs:

Product/ingredient name	Type	Exposure	Value	Population	Effects
Hexamethylene-1,6-Diisocyanate Homopolymer	DNEL	Short term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,5 mg/m ³	Workers	Local
Hexamethylene-Di-Isocyanate	DNEL	Short term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,5 mg/m ³	Workers	Local

PNECs:

Product/ingredient name	Compartment Detail	Value	Method Detail
Hexamethylene-1,6-Diisocyanate Homopolymer	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	-
Hexamethylene-Di-Isocyanate	Sewage treatment Plant	38,28 mg/l	-
	Fresh water	0,127 mg/l	-
	Marine	0,0127 mg/kg	-
	Sediment	266700 mg/kg dwt	-
	Soil	53182 mg/kg dwt	-
	Sewage treatment Plant	38,28 mg/l	-

8.2 Exposure controls

8.2.1. Appropriate engineering Controls:	Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn. (See Occupational exposure controls.).
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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Recommended: safety glasses with side-shields. (EN 166).

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.
Hands 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.
Gloves:	For prolonged or repeated handling, use the following type of gloves: Recommended: > 8 hours (breakthrough time): butyl rubber (0.6 mm) gloves The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN 374 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:	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. Recommended: organic vapour (Type A) and particulate filter (EN 140)
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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Important health, safety and environmental information

Physical state:	Liquid	Colour:	Clear
Form:	Liquid	Relative density [g/cm³] Temperature [°C]:	1,16
Odour:	Mild	Partition coefficient n-octanol/water:	Not applicable
Odour threshold:	Not available	Auto-ignition temperature (°C):	Not applicable
pH :	Not applicable	Decomposition temperature:	Not available
Melting point/freezing point (°C):	Not available	Viscosity (cSt):	Not available
Flash point (°C):	Closed cup: 158°C	Explosive properties:	Not available
Evaporation rate [kg/(s m²):	Not available	Vapour density (Air = 1):	Not available
Explosion limits [Vol-%]:	Not available	Solubility in water [g/l]:	Not available
Flammability (solid, gas)	Not available	Oxidising properties:	Not available
Lower Explosive Limit (%):	Not available	Vapour pressure:	Not available
Upper Explosive Limit (%):	Not available		

9.2 Other information

No additional information.

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

Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions

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10.4 Conditions to avoid

In a fire, hazardous decomposition products may be produced.

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

Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂ and smoke can be generated.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene- 1,6-Diisocyanate Homopolymer	LC50 Inhalation Dusts and mists	Rat - Female	390 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Hexamethylene-Diisocyanate	LC50 Inhalation Dusts and mists	Rat	462 mg/m ³	4 hours
	LC50 Inhalation Vapour	Rat	124 mg/m ³	4 hours
	LCLo Inhalation Vapour	Rat	60 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>7000 mg/kg	-

Conclusion/Summary:

Harmful if inhaled.

Acute toxicity estimates:

Not available.

Irritation/Corrosion:

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hexamethylene-1,6-Diisocyanate Homopolymer	Skin - Oedema	Rabbit	1	4 hours	-
	Eyes - Cornea opacity	Rabbit	1	-	-
Hexamethylene-Di- Isocyanate	Skin - Erythema/Eschar	Rabbit	3	-	-
	Eyes - Redness of the conjunctivae	Rabbit	3	-	-

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: May cause respiratory irritation.

Sensitisation:

Product/ingredient name	Route of exposure	Species	Result
Hexamethylene- 1,6-Diisocyanate Homopolymer	Skin	Guinea pig	Sensitising
	Respiratory	Guinea pig	Not sensitizing
Hexamethylene-Di-Isocyanate	Skin	Mouse	Sensitising
	Skin	Guinea pig	Sensitising
	Respiratory	Guinea pig	Sensitising

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 Homopolymer	OECD 471	Subject: Bacteria	Negative
	OECD 476	Subject: Mammalian-Animal	Negative
Hexamethylene-Di- Isocyanate	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary:

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

Carcinogenicity:

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
Hexamethylene-1,6-Diisocyanate Homopolymer	Category 3	Not applicable	Respiratory tract irritation
Hexamethylene-Di-Isocyanate	Category 3	Not applicable	Respiratory tract irritation

Specific target organ toxicity (repeated exposure):

Not available.

Aspiration hazard:

Not available.

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-Ddiisocyanate Homopolymer	Chronic NOAEL Inhalation dusts and mists	Rat	3,3 mg/m ³	6 hours; 5 days per week Intermittent
	Sub-acute LCLo Inhalation dusts and mists	Rat	4,3 mg/m ³	6 hours; 5 days per week Intermittent
	Sub-chronic LC50 Inhalation dusts and mists	Rat	14,7 mg/m ³	6 hours; 5 days per week Intermittent
	Sub-acute LC50 Inhalation dusts and mists	Rat	89,9 mg/m ³	6 hours; 5 days per week Intermittent
Hexamethylene-Di-Isocyanate	Chronic LCLo Inhalation Vapour	Rat	0,025 p.p.m.	30 days; 6 hours per day Intermittent

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.
Teratogenicity:	No known significant effects or critical hazards.
Developmental effects:	No known significant effects or critical hazards.
Fertility effects:	No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

There are no data available on the mixture itself.

Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as hazardous to the environment.

Product/ingredient name	Result	Species	Exposure
Hexamethylene- 1,6-Ddiisocyanate Homopolymer	Acute EC50 >10000 mg/l	Bacteria	3 hours
	Acute EC50 >100 mg/l	Daphnia spec	48 hours
	Acute IC50 >1000 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute LC50 >100 mg/l	Fish	96 hours
Hexamethylene-Di- Isocyanate	Acute EC50 >77,4 mg/l	Algae	72 hours
	Acute EC50 842 mg/l	Bacteria	3 hours

Conclusion/Summary:

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

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hexamethylene-1,6-Ddiisocyanate Homopolymer	OECD 301C	2 % - Not readily - 28 days	-	-
			-	-
Hexamethylene-Di- Isocyanate	OECD 301F	42 % - 10 days	-	-
	EU 301F Ready	42 % - 28 days	-	-
	Biodegradability - Manometric Respirometry Test			

Conclusion/Summary:

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene-1,6-Diisocyanate Homopolymer	Fresh water 0,32 days, 23°C	50%; 0.49 day(s)	Not readily
Hexamethylene-Di- Isocyanate	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Hexamethylene-1,6-Diisocyanate Homopolymer	8,38	706	High
Hexamethylene-Di- Isocyanate	0,02	57,63	Low

12.4 Mobility in soil

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

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / 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:	Yes.
Disposal considerations:	Do not allow to enter drains or watercourses. Residues in empty containers should be neutralised with a decontaminant (see section 6). Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.
European waste catalogue (EWC)	
The European Waste Catalogue classification of this product, when disposed of as waste, is:	
Waste Code:	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.
Disposal considerations:	Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.
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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

Labels required:

	Land transport ADR/RID	ADN	Marine transport IMDG	Air transport ICAO/IATA
14.1 UN-No	Not regulated	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	No.	No.	No.	No.
Additional Information	-	-	-	-

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

EU Regulation (EC) No. 1907/2006 (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.

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

Not applicable.

Other EU regulations:

VOC:

The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture:

2004/42/EC - IIA/j: 500g/l (2010). <= 80g/l VOC.

Ozone depleting substances (1005/2009/EU):

Not listed.

Prior Informed Consent (PIC) (649/2012/EU):

Not listed.

Persistent Organic Pollutants:

Not listed.

Seveso Directive:

This product is not controlled under the Seveso Directive.

References:

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

EH40/2005 Workplace exposure limits Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2016/918

International regulations:

Chemical Weapon Convention List Schedules I, II & III Chemicals:

Not listed.

Montreal Protocol (Annexes A, B, C, E):

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.

CN code:

3210 00 90.

Inventory list:

Australia: Not determined.
Canada: Not determined.
China: Not determined.
Japan: Japan inventory (CSCL): Not determined.
Japan inventory (ISHL): Not determined.
Malaysia: 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: All components are listed or exempted.
Thailand:
Viet Nam:

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

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

Classification	Justification
Acute Tox. 4, H332 Skin Sens. 1B, H317 STOT SE 3, H335	On basis of test data Calculation method Calculation method

Full text risk and hazard codes:

H315: Causes skin irritation..
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H330: Fatal if inhaled.
H332: Harmful if inhaled
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335: May cause respiratory irritation.

Full text of classifications: [CLP/GHS]:

Acute Tox. 1, H330 ACUTE TOXICITY (inhalation) - Category 1
Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4
Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Resp. Sens. 1, H334 RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317 SKIN SENSITISATION - Category 1
Skin Sens. 1B, H317 SKIN SENSITISATION - Category 1B

STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY - SINGLE
EXPOSURE (Respiratory tract irritation) - Category 3Category 3

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	21/08/2023	Template change

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.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

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

1.1 Product identifier

Trade name/designation: Caltech Clear Glaze – Base.

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

Relevant identified uses: Coating.

Recommended restrictions: Reserved for industrial and professional use.

1.3 Supplier

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

Product definition: Mixture

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

Skin Irrit. 2, H315, Eye Dam. 1, H318, 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:

Danger.

Hazard statements:

H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements prevention:

P280 - Wear protective gloves and eye protection:
- Butyl rubber gloves and safety glasses with side shields.

Precautionary statements response:

P305 - If in eyes:
P351 - Rinse cautiously with water for several minutes.
P338 - Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a doctor.

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.

Hazardous ingredients:

Poly[Oxy(Methyl-1,2-Ethanediy)], A -[2-[[[3-Ethoxy-1-(Ethoxycarbonyl)-3-Oxopropyl]Amino]Methylethyl]-Ω-[2-[[[3-Ethoxy-1-(Ethoxycarbonyl)-3-Oxopropyl]Amino]Methylethoxy]-And Diethyl Fumarate.

Supplemental label elements:

Not applicable.

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

For professional users only.

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

Ingredient	Numbers	Concentration	Classification (EC) 1272/2008	Specific Conc. Limits, M-factors and ATEs	Type
Poly[Oxy(Methyl-1,2-Ethanediy)], A-[2-[[[3-Ethoxy-1-(Ethoxycarbonyl)-3-Oxopropyl]Amino]Methylethyl]-Ω-[2-[[[3-Ethoxy-1-(Ethoxycarbonyl)-3-Oxopropyl]Amino]Methylethoxy]-	CAS: 152637-10-0	≥90	Skin Sens. 1B, H317 Aquatic Chronic 3, H412	-	[1]
Diethyl Fumarate	EC: 210-819-7 CAS: 623-91-6	≤5	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335	-	[1]

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.
- [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.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General:	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
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.
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.
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.
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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in nonallergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains Poly[oxy(methyl-1,2-ethanediyl)], α -[2-[[3-ethoxy-1-(ethoxycarbonyl)-3-oxopropyl]amino]methylethyl]- ω -[2-[[3-ethoxy-1-(ethoxycarbonyl)-3-oxopropyl]amino]methylethoxy]-. May produce an allergic reaction.

Over-exposure signs/symptoms:

Eye contact: Adverse symptoms may include the following:
Pain.
Watering.
Redness.

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following:
Pain or irritation.
Redness.
Blistering may occur.

Ingestion: Adverse symptoms may include the following:
Stomach pains.

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

Notes to physician:

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:

No specific treatment.

See toxicological information (Section 11).

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Recommended: alcohol-resistant foam, CO₂, powders, water spray or mist.

Extinguishing media which must not be used for safety reasons:

Do not use water jet.

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.

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.

Additional information:

No unusual hazard if involved in a fire.

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. Do not breathe 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 spill 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

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

Keep away from heat, sparks and flame. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Put on appropriate personal protective equipment (see Section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one.

Comply with the health and safety at work laws.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage:

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions:

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.

Keep container tightly closed.

Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage

7.3 Specific end use(s)

Recommendations: Industrial uses.

Professional uses:

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:

No exposure limit value known.

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/DMELs :

No DNELs/DMELs available.

PNECs:

No PNECs available

8.2 Exposure controls

8.2.1. Appropriate engineering controls:	Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.
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. If inhalation hazards exist, a full-face respirator may be required instead. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Recommended: chemical splash goggles. (EN 166)
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.
Hands protection: Gloves:	<p>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.</p> <p>For prolonged or repeated handling, use the following type of gloves: Recommended: > 8 hours (breakthrough time): polyethylene (PE) The recommendation for the type or types of glove to use when handling this product is based on information from the following source:</p>

Our company policy is one of continuous research and development; we therefore reserve the right to amend content herein without prior notice.

	EN 374 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 140)
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:	Not available
Form:	Liquid	Relative density [g/cm³]:	1,16
Odour:	Mild	Temperature [°C]:	
Odour threshold:	Not available	Partition coefficient n-octanol/water:	Not applicable
pH:	Not available	Auto-ignition temperature (°C):	Not applicable
Melting point/freezing point (°C):	Not available	Decomposition temperature:	Not available
	Closed cup: 102°C	Viscosity (cSt):	Dynamic (room temperature): 100 mPa s
Flash point (°C):	[Product does not sustain combustion]	Explosive properties:	Not available
Evaporation rate [kg/(s m²)]:	Not available	Vapour density (Air = 1):	Not available
Explosion limits [Vol-%]:	Not available	Solubility in water [g/l]:	Not available
Flammability (solid, gas):	Not available	Oxidising properties:	Not available
Lower Explosive Limit (%):	Not available	Vapour pressure:	Not available
Upper Explosive Limit (%):	Not available		

9.2 Other information

No additional information.

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

Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

When exposed to high temperatures may produce hazardous decomposition products.

10.5 Incompatible materials

Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂ and smoke can be generated.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Result	Species	Dose	Exposure
Poly[Oxy(Methyl-1,2-Ethanediy)], A-[2-[[3-Ethoxy-1-(Ethoxycarbonyl) - 3-Oxopropyl]Amino]Methylethyl] -Ω-[2-[[3-Ethoxy-1-(Ethoxycarbonyl)- 3-Oxopropyl]Amino]Methylethoxy]-	LC50 Inhalation Dusts And Mists	Rat	>4,224 Mg/L	4 Hours
Diethyl Fumarate	LD50 Oral	Rat	1780 Mg/Kg	-

Conclusion/Summary:

Based on available data, the classification criteria are not met. Causes serious eye damage.

Acute toxicity estimates:

Not available.

Irritation/Corrosion:

Conclusion/Summary:

Skin: Causes skin irritation.
Eyes: Causes serious eye damage.
Respiratory: Based on available data, the classification criteria are not met.

Sensitisation:

Conclusion/Summary:

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

Mutagenicity:

Conclusion/Summary:

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

Carcinogenicity:

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
Diethyl Fumarate	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard:

Not available

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:

Not available.

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.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

There are no data available on the mixture itself.

Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as hazardous to the environment.

Product/ingredient name	Result	Species	Exposure
Diethyl Fumarate	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Conclusion/Summary:

Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	R esult	Dose	Inoculum
Poly[Oxy(Methyl-1,2-Ethanediy)], A-[2-[[3-Ethoxy-1-(Ethoxycarbonyl) -3-Oxopropyl]Amino]Methylethyl] -Ω-[2-[[3-Ethoxy-1-(Ethoxycarbonyl)-3-Oxopropyl]Amino]Methylethoxy]-	-	23 % - Not readily - 28 days	-	-

Conclusion/Summary:

This product has not been tested for biodegradation. Based on available data, the classification criteria are not met.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Poly[Oxy(Methyl-1,2-Ethanediy)], A-[2-[[3-Ethoxy-1-(Ethoxycarbonyl) -3-Oxopropyl]Amino]Methylethyl] -Ω-[2-[[3-Ethoxy-1-(Ethoxycarbonyl)-3-Oxopropyl]Amino]Methylethoxy]-	-	-	Not readily

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

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

Not available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / 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:	Yes.
Disposal considerations:	Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.
European waste catalogue (EWC): The European Waste Catalogue classification of this product, when disposed of as waste, is:	
Waste code:	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.
Disposal considerations:	Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.
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. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

Labels required:

	Land transport ADR/RID	ADN	Marine transport IMDG	Air transport ICAO/IATA
14.1 UN-No	Not regulated	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	No.	No.	No.	No.
Additional Information	-	-	-	-

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

EU Regulation (EC) No. 1907/2006 (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.

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

For professional users only.

Other EU regulations:

VOC: The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture: 2004/42/EC - IIA/j; 500g/l (2010). ≤ 42g/l VOC.

Europe inventory : All components are listed or exempted.

Black List Chemicals:

(76/464/EEC).

Ozone depleting substances (1005/2009/EU):

Not listed.

Prior Informed Consent (PIC) (649/2012/EU):

Not listed.

Seveso Directive:

This product is not controlled under the Seveso Directive.

National regulations:

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

References:

EH40/2005 Workplace exposure limits Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2016/918

International regulations:

Chemical Weapon Convention List Schedules I, II & III Chemicals:

Not listed.

Montreal Protocol (Annexes A, B, C, E):

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.

CN code:

3208 90 91.

Inventory li:

Australia:	Not determined.
Canada:	Not determined.
China:	Not determined.
Japan:	Japan inventory (CSCL): Not determined Japan inventory (ISHL): Not determined
Malaysia:	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.
Thailand:	Not determined.
Viet Nam:	Not determined.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

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

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text risk and hazard codes:

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H335: May cause respiratory irritation.
- H412: Harmful to aquatic life with long lasting effects.

Full text of classifications: [CLP/GHS]:

- Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
- Aquatic Chronic 3, H412 LONG-TERM (CHRONIC) AQUATIC HAZARD -Category 3
- Eye Dam. 1, H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
- Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
- Skin Sens. 1, H317 SKIN SENSITISATION - Category 1
- Skin Sens. 1B, H317 SKIN SENSITISATION - Category 1B
- STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

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

Our company policy is one of continuous research and development; we therefore reserve the right to amend content herein without prior notice.

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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	21/08/2023	Template change

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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