ClearWeld™ Syringe Part A, Resin

JRP Distribution Ltd

Version No: **3.5**
Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Issue Date: **10/03/2023**
Print Date: **10/25/2023**
S.REACH.GB.EN

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

1.1. Product Identifier

Product name	ClearWeld™ Syringe Part A, Resin
Synonyms	50112, 50114, 50114H, 50132 (PlasticWeld Part A) 50240, 50240H, 8212 (ClearWeld™ Syringe, Part A)
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	**JRP Distribution Ltd**
Address	Unit 10A, Business Park, City Fields Way Tangmere PO20 2FT United Kingdom
Telephone	+44 1903 750355
Fax	Not Available
Website	www.jbweld.com
Email	info@jbweld.com

1.4. Emergency telephone number

Association / Organisation	**Department of Health & Social Care (DHSC)**
Emergency telephone numbers	**112**
Other emergency telephone numbers	**Not Available**

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]	H315 - Skin Corrosion/Irritation Category 2, H317 - Sensitisation (Skin) Category 1B, H319 - Serious Eye Damage/Eye Irritation Category 2, H335 - Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567*

2.2. Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Supplementary statement(s)

Page 1 continued...

Not Applicable

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

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

2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 25068-38-6* 2.500-033-5 3.603-074-00-8 4.Not Available	90-95	bisphenol A diglycidyl ether polymer	Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3 , Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Sensitisation (Skin) Category 1B; H335, H315, H319, H317 [1]	Eye Irrit. 2; H319: C ≥ 5 % | Skin Irrit 2; H315: C ≥ 5 %	Not Available
1. 3101-60-8* 2.221-453-2 3.Not Available 4.Not Available	1-10	4-tert-butylphenyl glycidyl ether	Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1; H411, H312, H302, H315, H317 [1]	Not Available	Not Available
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties*				

SECTION 4 First aid measures

4.1. Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor, without delay.

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Ingestion	▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

5.3. Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves in the event of a fire. ▸ Prevent, by any means available, spillage from entering drains or water courses.
Fire/Explosion Hazard	▸ Non combustible. ▸ Not considered a significant fire risk, however containers may burn. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	▸ Clean up all spills immediately. ▸ Avoid contact with skin and eyes. ▸ Wear impervious gloves and safety goggles.
Major Spills	▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area.
Fire and explosion protection	See section 5
Other information	▸ Store in original containers. ▸ Keep containers securely sealed. ▸ Store in a cool, dry, well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	▸ Polyethylene or polypropylene container. ▸ Packing as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known

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Hazard categories in accordance with Regulation (EC) No 1272/2008	Not Available
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	Not Available

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
4-tert-butylphenyl glycidyl ether	Dermal 1 mg/kg bw/day (Systemic, Chronic) Inhalation 3.5 mg/m³ (Systemic, Chronic) Dermal 1.6 µg/cm² (Local, Chronic) Inhalation 3.5 mg/m³ (Local, Chronic) Dermal 1 mg/kg bw/day (Systemic, Acute) Inhalation 3.5 mg/m³ (Systemic, Acute) Dermal 1.6 µg/cm² (Local, Acute) Inhalation 3.5 mg/m³ (Local, Acute) *Dermal 0.5 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 1.75 mg/m³ (Systemic, Chronic) ** *Dermal 0.95 µg/cm² (Local, Chronic) ** *Inhalation 1.75 mg/m³ (Local, Chronic) ** *Dermal 0.5 mg/kg bw/day (Systemic, Acute) ** *Dermal 0.95 µg/cm² (Local, Acute) **	7.5 µg/L (Water (Fresh)) 75 µg/L (Water - Intermittent release) 0.75 µg/L (Water (Marine)) 33.54 mg/kg sediment dw (Sediment (Fresh Water)) 3.354 mg/kg sediment dw (Sediment (Marine)) 11.4 mg/kg soil dw (Soil) 100 mg/L (STP)

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Not Applicable

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
bisphenol A diglycidyl ether polymer	90 mg/m3	990 mg/m3	5,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
bisphenol A diglycidyl ether polymer	Not Available	Not Available
4-tert-butylphenyl glycidyl ether	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
bisphenol A diglycidyl ether polymer	E	≤ 0.1 ppm
4-tert-butylphenyl glycidyl ether	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
8.2.2. Individual protection measures, such as personal protective equipment	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below

Continued...

Hands/feet protection	▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber **NOTE:** ▸ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ P.V.C apron. ▸ Barrier cream.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear Liquid

Physical state	Free-flowing Paste	**Relative density (Water = 1)**	1.10-1.20
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

Continued...

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

ClearWeld™ Syringe Part A, Resin		
	TOXICITY	**IRRITATION**
	Not Available	Not Available

bisphenol A diglycidyl ether polymer		
	TOXICITY	**IRRITATION**
	dermal (rat) LD50: >1200 mg/kg[2]	Not Available
	Oral (Mouse) LD50; >500 mg/kg[2]	

4-tert-butylphenyl glycidyl ether		
	TOXICITY	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Not Available
	Oral (Rat) LD50: >2000 mg/kg[1]	

Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

ClearWeld™ Syringe Part A, Resin	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✗
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✓
Respiratory or Skin sensitisation	✓	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

ClearWeld™ Syringe Part A, Resin					
	Endpoint	**Test Duration (hr)**	**Species**	**Value**	**Source**
	Not Available	Not Available	Not Available	Not Available	Not Available

Continued...

bisphenol A diglycidyl ether polymer	

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	~2mg/l	2
EC50(ECx)	24h	Crustacea	3mg/l	Not Available
LC50	96h	Fish	2.4mg/l	Not Available

4-tert-butylphenyl glycidyl ether

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	~9mg/l	2
EC50	48h	Crustacea	~67.9mg/l	2
LC50	96h	Fish	~7.5mg/l	2
EC50(ECx)	72h	Algae or other aquatic plants	~9mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
4-tert-butylphenyl glycidyl ether	HIGH	HIGH

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
4-tert-butylphenyl glycidyl ether	LOW (LogKOW = 3.5231)

12.4. Mobility in soil

Ingredient	Mobility
4-tert-butylphenyl glycidyl ether	LOW (KOC = 293.2)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✗	✗	✗
vPvB	✗	✗	✗

PBT Criteria fulfilled?	No
vPvB	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Management Authority for disposal. ▸ Bury residue in an authorised landfill.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Continued...

14.1. **UN number or ID number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	Class: Not Applicable Subsidiary Hazard: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard identification (Kemler): Not Applicable Classification code: Not Applicable Hazard Label: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable Tunnel Restriction Code: Not Applicable

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	ICAO/IATA Class: Not Applicable ICAO / IATA Subsidiary Hazard: Not Applicable ERG Code: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Special provisions: Not Applicable Cargo Only Packing Instructions: Not Applicable Cargo Only Maximum Qty / Pack: Not Applicable Passenger and Cargo Packing Instructions: Not Applicable Passenger and Cargo Maximum Qty / Pack: Not Applicable Passenger and Cargo Limited Quantity Packing Instructions: Not Applicable Passenger and Cargo Limited Maximum Qty / Pack: Not Applicable

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	IMDG Class: Not Applicable IMDG Subsidiary Hazard: Not Applicable
14.4. **Packing group**	Not Applicable
14.5 **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	EMS Number: Not Applicable Special provisions: Not Applicable Limited Quantities: Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	Not Applicable | Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Classification code: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable Equipment required: Not Applicable

Continued...

	Fire cones number	Not Applicable

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
bisphenol A diglycidyl ether polymer	Not Available
4-tert-butylphenyl glycidyl ether	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
bisphenol A diglycidyl ether polymer	Not Available
4-tert-butylphenyl glycidyl ether	Not Available

SECTION 15 Regulatory information

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

bisphenol A diglycidyl ether polymer is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
Great Britain GB mandatory classification and labelling list (GB MCL)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

4-tert-butylphenyl glycidyl ether is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	Not Available

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (bisphenol A diglycidyl ether polymer; 4-tert-butylphenyl glycidyl ether)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (bisphenol A diglycidyl ether polymer; 4-tert-butylphenyl glycidyl ether)
Vietnam - NCI	Yes
Russia - FBEPH	No (4-tert-butylphenyl glycidyl ether)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	10/03/2023
Initial Date	11/13/2020

Full text Risk and Hazard codes

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H411	Toxic to aquatic life with long lasting effects.

Continued...

SDS Version Summary

Version	Date of Update	Sections Updated
2.5	10/02/2023	Hazards identification - Classification, Composition / information on ingredients - Ingredients, Identification of the substance / mixture and of the company / undertaking - Synonyms, Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
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.
For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Skin Corrosion/Irritation Category 2, H315	Minimum classification
Sensitisation (Skin) Category 1B, H317	Calculation method
Serious Eye Damage/Eye Irritation Category 2, H319	Minimum classification
Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3 , H335	Calculation method

Powered by AuthorITe, from Chemwatch.

ClearWeld™ Syringe, Part B Hardener

JRP Distribution Ltd

Version No: **8.11**
Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Issue Date: **10/03/2023**
Print Date: **10/25/2023**
S.REACH.GB.EN

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

1.1. Product Identifier

Product name	ClearWeld™ Syringe, Part B Hardener
Synonyms	50112, 50112H, 50114, 50114H, 50240, 50240H, 8212 (ClearWeld™ Part B); 50132 (PlasticWeld™ Part B)
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	**JRP Distribution Ltd**
Address	Unit 10A, Business Park, City Fields Way Tangmere PO20 2FT United Kingdom
Telephone	+44 1903 750355
Fax	903-885-5911
Website	www.jbweld.com
Email	info@jbweld.com

1.4. Emergency telephone number

Association / Organisation	**Department of Health & Social Care (DHSC)**
Emergency telephone numbers	**112**
Other emergency telephone numbers	**Not Available**

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]	H315 - Skin Corrosion/Irritation Category 2, H317 - Sensitisation (Skin) Category 1, H318 - Serious Eye Damage/Eye Irritation Category 1, H360Fd - Reproductive Toxicity Category 1A
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567*

2.2. Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H360Fd	May damage fertility. Suspected of damaging the unborn child.

Supplementary statement(s)

Page 1 continued...

Not Applicable

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P260	Do not breathe mist/vapours/spray.
P263	Avoid contact during pregnancy/while nursing.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

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

2.3. Other hazards

N-aminoethylethanolamine	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)
N-aminoethylethanolamine	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)

SECTION 3 Composition / information on ingredients

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 72244-98-5* 2.Not Available 3.Not Available 4.Not Available	80 - 90	pentaerythritol, propoxylated, mercaptoglycerol capped	Sensitisation (Skin) Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 3; H317, H412 [1]	Not Available	Not Available
1. 100-51-6* 2.202-859-9 3.603-057-00-5 4.Not Available	1 - 5	benzyl alcohol	Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 2, Sensitisation (Skin) Category 1; H312, H332, H302, H319, H317, EUH019 [1]	Not Available	Not Available
1. 140-31-8* 2.205-411-0 3.612-105-00-4 4.Not Available	1 - 5	N-aminoethylpiperazine	Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 1B, Corrosive to Metals Category 1, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Sensitisation (Skin) Category 1; H311, H314, H290, H318, H302, H317 [1]	Not Available	Not Available
1. 111-40-0* 2.203-865-4 3.612-058-00-X 4.Not Available	< 0.5	diethylenetriamine	Skin Corrosion/Irritation Category 1B, Acute Toxicity (Dermal) Category 4, Specific Target Organ Toxicity - Repeated Exposure Category 2, Corrosive to Metals Category 1, Serious Eye Damage/Eye Irritation Category 1, Reproductive Toxicity Category 1A, Acute Toxicity (Oral) Category 4, Reproductive Toxicity Category 1A, Sensitisation (Skin) Category 1; H314, H312, H373, H290, H318, H360Fd, H302, H360Df, H317 [1]	Not Available	Not Available
1. 111-41-1* 2.203-867-5 3.603-194-00-0 4.Not Available	< 0.1	N-aminoethylethanolamine	Skin Corrosion/Irritation Category 1B, Acute Toxicity (Dermal) Category 4, Corrosive to Metals Category 1, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Reproductive Toxicity Category 1B, Reproductive Toxicity Effects on or via Lactation, Sensitisation (Skin) Category 1; H314, H312, H290, H318, H302, H360, H362, H317 [1]	STOT SE 3; H335: C ≥ 5 %	Not Available

Continued...

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 3033-62-3* 2.221-220-5 3.Not Available 4.Not Available	0.1 - 1	bis(2-dimethylaminoethyl)ether	Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Inhalation) Category 4, Acute Toxicity (Oral) Category 4; H311, H314, H318, H332, H302 [1]	Not Available	Not Available
1. 25620-58-0* 2.247-134-8 3.Not Available 4.Not Available	1 - 5	trimethylhexamethylene diamine	Skin Corrosion/Irritation Category 1B, Acute Toxicity (Dermal) Category 4, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Sensitisation (Skin) Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 3; H314, H312, H318, H302, H317, H412 [1]	Not Available	Not Available
1. 112-24-3* 2.203-950-6 3.612-059-00-5 4.Not Available	1 - 5	triethylenetetramine	Skin Corrosion/Irritation Category 1C, Acute Toxicity (Dermal) Category 4, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Sensitisation (Skin) Category 1; H314, H312, H318, H302, H317 [1]	Not Available	Not Available
1. 112-57-2* 2.203-986-2 3.612-060-00-0 4.Not Available	< 0.1	tetraethylenepentamine	Skin Corrosion/Irritation Category 1B, Acute Toxicity (Dermal) Category 4, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Sensitisation (Skin) Category 1; H314, H312, H318, H302, H317 [1]	Not Available	Not Available
1. 111-41-1* 2.203-867-5 3.603-194-00-0 4.Not Available	< 0.1	N-aminoethylethanolamine	Skin Corrosion/Irritation Category 1B, Acute Toxicity (Dermal) Category 4, Corrosive to Metals Category 1, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Reproductive Toxicity Category 1B, Reproductive Toxicity Effects on or via Lactation, Sensitisation (Skin) Category 1; H314, H312, H290, H318, H302, H360, H362, H317 [1]	STOT SE 3; H335: C ≥ 5 %	Not Available
1. 39423-51-3* 2.500-105-6 3.Not Available 4.Not Available	1 - 5	trimethylolpropane triamine ether, propoxylated	Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Acute Toxicity (Dermal) Category 4, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4; H411, H312, H318, H302 [1]	Not Available	Not Available
1. 919-30-2* 2.213-048-4 3.612-108-00-0 4.Not Available	< 5	3-aminopropyltriethoxysilane	Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Reproductive Toxicity Category 1A, Acute Toxicity (Oral) Category 4, Sensitisation (Skin) Category 1; H314, H318, H360Fd, H302, H317 [1]	Not Available	Not Available
1. 13497-18-2 2.236-818-1 3.Not Available 4.Not Available	< 1	bis[3-(triethoxysilyl)propyl]amine	Corrosive to Metals Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1; H290, H302, H314, H318 [1]	Not Available	Not Available
1. 1184179-50-7* 2.Not Available 3.Not Available 4.Not Available	< 0.5	1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	Skin Corrosion/Irritation Category 1B, Corrosive to Metals Category 1, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4; H314, H290, H318, H302 [1]	Not Available	Not Available
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties*				

SECTION 4 First aid measures

4.1. Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Immediately hold eyelids apart and flush the eye continuously with running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

Continued...

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

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

5.3. Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves in the event of a fire. ▸ Prevent, by any means available, spillage from entering drains or water courses.
Fire/Explosion Hazard	▸ Non combustible. ▸ Not considered a significant fire risk, however containers may burn. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	▸ Clean up all spills immediately. ▸ Avoid contact with skin and eyes. ▸ Wear impervious gloves and safety goggles.
Major Spills	▸ Clear area of personnel and move upwind. ▸ Alert Fire Department and tell them location and nature of hazard.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area.
Fire and explosion protection	See section 5
Other information	▸ Store in original containers. ▸ Keep containers securely sealed. ▸ Store in a cool, dry, well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	▸ Polyethylene or polypropylene container. ▸ Packing as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known
Hazard categories in accordance with Regulation (EC) No 1272/2008	Not Available
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	Not Available

7.3. Specific end use(s)

See section 1.2

Continued...

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
benzyl alcohol	Dermal 8 mg/kg bw/day (Systemic, Chronic) Inhalation 22 mg/m³ (Systemic, Chronic) Dermal 40 mg/kg bw/day (Systemic, Acute) Inhalation 110 mg/m³ (Systemic, Acute) *Dermal 4 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 5.4 mg/m³ (Systemic, Chronic) ** *Oral 4 mg/kg bw/day (Systemic, Chronic) ** *Dermal 20 mg/kg bw/day (Systemic, Acute) ** *Inhalation 27 mg/m³ (Systemic, Acute) ** *Oral 20 mg/kg bw/day (Systemic, Acute) **	1 mg/L (Water (Fresh)) 2.3 mg/L (Water - Intermittent release) 0.1 mg/L (Water (Marine)) 5.27 mg/kg sediment dw (Sediment (Fresh Water)) 0.527 mg/kg sediment dw (Sediment (Marine)) 0.456 mg/kg soil dw (Soil) 39 mg/L (STP)
N-aminoethylpiperazine	Dermal 3.33 mg/kg bw/day (Systemic, Chronic) Inhalation 10.6 mg/m³ (Systemic, Chronic) Inhalation 15 µg/m³ (Local, Chronic) Inhalation 10.6 mg/m³ (Systemic, Acute) Inhalation 80 µg/m³ (Local, Acute)	0.058 mg/L (Water (Fresh)) 0.58 mg/L (Water - Intermittent release) 0.006 mg/L (Water (Marine)) 215 mg/kg sediment dw (Sediment (Fresh Water)) 21.5 mg/kg sediment dw (Sediment (Marine)) 1 mg/kg soil dw (Soil) 250 mg/L (STP)
diethylenetriamine	Dermal 11.4 mg/kg bw/day (Systemic, Chronic) Inhalation 15.4 mg/m³ (Systemic, Chronic) Dermal 1.1 mg/cm² (Local, Chronic) Inhalation 0.87 mg/m³ (Local, Chronic) Inhalation 92.1 mg/m³ (Systemic, Acute) Inhalation 2.6 mg/m³ (Local, Acute) *Dermal 4.88 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 4.6 mg/m³ (Systemic, Chronic) ** *Dermal 4.88 mg/kg bw/day (Systemic, Acute) ** *Inhalation 27.5 mg/m³ (Systemic, Acute) **	0.56 mg/L (Water (Fresh)) 0.32 mg/L (Water - Intermittent release) 0.056 mg/L (Water (Marine)) 1072 mg/kg sediment dw (Sediment (Fresh Water)) 107.2 mg/kg sediment dw (Sediment (Marine)) 7.97 mg/kg soil dw (Soil) 6 mg/L (STP)
N-aminoethylethanolamine	Dermal 2 mg/kg bw/day (Systemic, Chronic) Inhalation 0.704 mg/m³ (Systemic, Chronic) *Dermal 1 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.174 mg/m³ (Systemic, Chronic) ** *Oral 0.1 mg/kg bw/day (Systemic, Chronic) **	0.022 mg/L (Water (Fresh)) 0.22 mg/L (Water - Intermittent release) 0.002 mg/L (Water (Marine)) 0.172 mg/kg sediment dw (Sediment (Fresh Water)) 0.017 mg/kg sediment dw (Sediment (Marine)) 0.019 mg/kg soil dw (Soil) 82.2 mg/L (STP) 0.001 g/kg food (Oral)
bis(2-dimethylaminoethyl)ether	Inhalation 0.16 mg/m³ (Systemic, Chronic) Inhalation 0.08 mg/m³ (Local, Chronic) *Inhalation 0.041 mg/m³ (Systemic, Chronic) ** *Oral 0.047 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.013 mg/m³ (Local, Chronic) **	0.023 mg/L (Water (Fresh)) 0.23 mg/L (Water - Intermittent release) 0.002 mg/L (Water (Marine)) 0.019 mg/kg sediment dw (Sediment (Fresh Water)) 0.002 mg/kg sediment dw (Sediment (Marine)) 0.007 mg/kg soil dw (Soil) 7.2 mg/L (STP)
triethylenetetramine	Dermal 0.57 mg/kg bw/day (Systemic, Chronic) Inhalation 1 mg/m³ (Systemic, Chronic) Dermal 28 µg/cm² (Local, Chronic) Inhalation 5 380 mg/m³ (Systemic, Acute) *Dermal 0.25 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.29 mg/m³ (Systemic, Chronic) ** *Oral 0.41 mg/kg bw/day (Systemic, Chronic) ** *Dermal 0.43 mg/cm² (Local, Chronic) ** *Dermal 8 mg/kg bw/day (Systemic, Acute) ** *Inhalation 1 600 mg/m³ (Systemic, Acute) ** *Oral 20 mg/kg bw/day (Systemic, Acute) ** *Dermal 1 mg/cm² (Local, Acute) **	Not Available
N-aminoethylethanolamine	Dermal 2 mg/kg bw/day (Systemic, Chronic) Inhalation 0.704 mg/m³ (Systemic, Chronic) *Dermal 1 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 0.174 mg/m³ (Systemic, Chronic) ** *Oral 0.1 mg/kg bw/day (Systemic, Chronic) **	0.022 mg/L (Water (Fresh)) 0.22 mg/L (Water - Intermittent release) 0.002 mg/L (Water (Marine)) 0.172 mg/kg sediment dw (Sediment (Fresh Water)) 0.017 mg/kg sediment dw (Sediment (Marine)) 0.019 mg/kg soil dw (Soil) 82.2 mg/L (STP) 0.001 g/kg food (Oral)
trimethylolpropane triamine ether, propoxylated	Dermal 1.6 mg/kg bw/day (Systemic, Chronic) Inhalation 14.1 mg/m³ (Systemic, Chronic)	0.004 mg/L (Water (Fresh)) 0.044 mg/L (Water - Intermittent release) 0 mg/L (Water (Marine)) 0.022 mg/kg sediment dw (Sediment (Fresh Water)) 0.002 mg/kg sediment dw (Sediment (Marine)) 0.002 mg/kg soil dw (Soil) 10 mg/L (STP)
3-aminopropyltriethoxysilane	Dermal 2 mg/kg bw/day (Systemic, Chronic) Inhalation 14 mg/m³ (Systemic, Chronic) *Dermal 1 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 3.5 mg/m³ (Systemic, Chronic) ** *Oral 1 mg/kg bw/day (Systemic, Chronic) **	0.5 mg/L (Water (Fresh)) 2.05 mg/L (Water - Intermittent release) 0.05 mg/L (Water (Marine)) 1.8 mg/kg sediment dw (Sediment (Fresh Water)) 0.18 mg/kg sediment dw (Sediment (Marine)) 0.069 mg/kg soil dw (Soil) 0.81 mg/L (STP)

Continued...

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
bis[3-(triethoxysilyl)propyl]amine	Dermal 1.6 mg/kg bw/day (Systemic, Chronic) Inhalation 11.2 mg/m³ (Systemic, Chronic) *Dermal 0.78 mg/kg bw/day (Systemic, Chronic) ** *Inhalation 2.72 mg/m³ (Systemic, Chronic) ** *Oral 0.78 mg/kg bw/day (Systemic, Chronic) **	Not Available

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs).	diethylenetriamine	2,2'-Iminodi(ethylamine)	1 ppm / 4.3 mg/m3	Not Available	Not Available	Sk

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
benzyl alcohol	30 ppm	52 ppm	740 ppm
N-aminoethylpiperazine	6.4 mg/m3	71 mg/m3	420 mg/m3
diethylenetriamine	3 ppm	8.5 ppm	51 ppm
N-aminoethylethanolamine	9 mg/m3	99 mg/m3	590 mg/m3
bis(2-dimethylaminoethyl)ether	0.15 ppm	1.4 ppm	8.4 ppm
triethylenetetramine	3 ppm	14 ppm	83 ppm
tetraethylenepentamine	15 mg/m3	130 mg/m3	790 mg/m3
N-aminoethylethanolamine	9 mg/m3	99 mg/m3	590 mg/m3
trimethylolpropane triamine ether, propoxylated	30 mg/m3	330 mg/m3	2,000 mg/m3
3-aminopropyltriethoxysilane	1.9 mg/m3	21 mg/m3	350 mg/m3

Ingredient	Original IDLH	Revised IDLH
pentaerythritol, propoxylated, mercaptoglycerol capped	Not Available	Not Available
benzyl alcohol	Not Available	Not Available
N-aminoethylpiperazine	Not Available	Not Available
diethylenetriamine	Not Available	Not Available
N-aminoethylethanolamine	Not Available	Not Available
bis(2-dimethylaminoethyl)ether	Not Available	Not Available
trimethylhexamethylene diamine	Not Available	Not Available
triethylenetetramine	Not Available	Not Available
tetraethylenepentamine	Not Available	Not Available
N-aminoethylethanolamine	Not Available	Not Available
trimethylolpropane triamine ether, propoxylated	Not Available	Not Available
3-aminopropyltriethoxysilane	Not Available	Not Available
bis[3-(triethoxysilyl)propyl]amine	Not Available	Not Available
1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	Not Available	Not Available

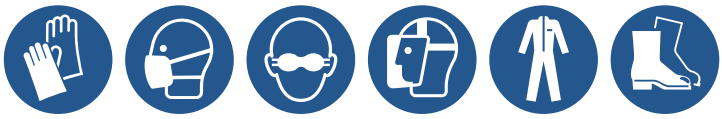
Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
pentaerythritol, propoxylated, mercaptoglycerol capped	D	> 0.1 to ≤ 1 ppm
benzyl alcohol	E	≤ 0.1 ppm
N-aminoethylpiperazine	E	≤ 0.1 ppm
N-aminoethylethanolamine	E	≤ 0.1 ppm
bis(2-dimethylaminoethyl)ether	E	≤ 0.1 ppm
trimethylhexamethylene diamine	E	≤ 0.1 ppm
triethylenetetramine	E	≤ 0.1 ppm
tetraethylenepentamine	E	≤ 0.1 ppm
N-aminoethylethanolamine	E	≤ 0.1 ppm
trimethylolpropane triamine ether, propoxylated	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Continued...

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
3-aminopropyltriethoxysilane	E	≤ 0.1 ppm
bis[3-(triethoxysilyl)propyl]amine	E	≤ 0.1 ppm
1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
8.2.2. Individual protection measures, such as personal protective equipment	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ‣ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron. ‣ Barrier cream.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear Liquid

Physical state	Free-flowing Paste	**Relative density (Water = 1)**	1.1-1.2
Odor	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available		
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available

Continued...

Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to be a skin irritant (as classified by EC Directives using animal models). Temporary discomfort, however, may result from prolonged dermal exposures. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	If applied to the eyes, this material causes severe eye damage.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Ample evidence exists that this material directly causes reduced fertility

ClearWeld™ Syringe, Part B Hardener	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
pentaerythritol, propoxylated, mercaptoglycerol capped	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >10200 mg/kg *[2]	Not Available
	Inhalation(Rat) LC50: >100 mg/m3 *[2]	
	Oral (Rat) LD50: 2600 mg/kg *[2]	
benzyl alcohol	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 2000 mg/kg[2]	Eye (rabbit): 0.75 mg open SEVERE
	Inhalation (Rat)LC50: >4178 mg/m3/4h[2]	Eye: adverse effect observed (irritating)[1]
	Inhalation (Rat)LC50: 1000 ppm/8h[2]	Skin (man): 16 mg/48h-mild
	Inhalation (Rat)LCLo: 2000 ppm/4h[2]	Skin (rabbit):10 mg/24h open-mild
	Oral (Rat) LD50: 1230 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]
N-aminoethylpiperazine	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 880 mg/kg[2]	Eye (rabbit): 20 mg/24h - mod
	Intraperitoneal (Mouse) LD50: 250 mg/kg[2]	Eye: adverse effect observed (irritating)[1]

Continued...

	Oral (Rat) LD50: 2410 mg/kg[2]	Skin (rabbit): 0.1 mg/24h - mild
		Skin (rabbit): 5 mg/24h - SEVERE
		Skin: adverse effect observed (corrosive)[1]

diethylenetriamine	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 1090 mg/kg[2]	Eye: adverse effect observed (irritating)[1]
	Inhalation (Rat)LC: 70 mg/m3/4h[2]	Skin (rabbit): 10 mg/24h - SEVERE
	Intraperitoneal (Mouse) LD50: 71 mg/kg[2]	Skin (rabbit):500 mg open moderate
	Intraperitoneal (Rat) LD50: 74 mg/kg[2]	Skin: adverse effect observed (corrosive)[1]
	Oral (Rat) LD50: 1080 mg/kg[2]	

N-aminoethylethanolamine	**TOXICITY**	**IRRITATION**
	Dermal (g.pig) LD50: 1800 mg/kg[2]	Eye (rabbit): 50 mg SEVERE
	Dermal (rabbit) LD50: 3560 mg/kg[2]	Skin (rabbit): 445 mg (open)mild
	Intramuscular (rat) LD50: 2000 mg/kg[2]	Skin : Mild
	Intraperitoneal (rat) LD50: 120 mg/kg[2]	Skin(rabbit):10 mg/24h open
	Intravenous (rat) LD50: 417 mg/kg[2]	
	Oral (g.pig) LD50: 1500 mg/kg[2]	
	Oral (Mouse) LD50; 3550 mg/kg[2]	
	Oral (rabbit) LD50: 2000 mg/kg[2]	
	Oral (Rat) LD50: 3000 mg/kg[2]	
	Subcutaneous (rat) LD50: 2250 mg/kg[2]	

bis(2-dimethylaminoethyl)ether	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 238 mg/kg[2]	Not Available
	Inhalation(Rat) LC50: >2.204 mg/l4h[1]	
	Oral (Rat) LD50: 571 mg/kg[2]	

trimethylhexamethylene diamine	**TOXICITY**	**IRRITATION**
	Oral (Rat) LD50: 910 mg/kg[2]	Not Available

triethylenetetramine	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 805 mg/kg[2]	Not Available
	Oral (Rat) LD50: 1591.4 mg/kg[1]	

tetraethylenepentamine	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 660 mg/kg[2]	Eye (rabbit): 100 mg/24h moderate
	Oral (Rat) LD50: 3990 mg/kg[2]	Eye (rabbit): 5 mg moderate
		Skin (rabbit): 495 mg SEVERE
		Skin (rabbit): 5 mg/24h SEVERE

N-aminoethylethanolamine	**TOXICITY**	**IRRITATION**
	Dermal (g.pig) LD50: 1800 mg/kg[2]	Eye (rabbit): 50 mg SEVERE
	Dermal (rabbit) LD50: 3560 mg/kg[2]	Skin (rabbit): 445 mg (open)mild
	Intramuscular (rat) LD50: 2000 mg/kg[2]	Skin : Mild
	Intraperitoneal (rat) LD50: 120 mg/kg[2]	Skin(rabbit):10 mg/24h open
	Intravenous (rat) LD50: 417 mg/kg[2]	
	Oral (g.pig) LD50: 1500 mg/kg[2]	
	Oral (Mouse) LD50; 3550 mg/kg[2]	
	Oral (rabbit) LD50: 2000 mg/kg[2]	
	Oral (Rat) LD50: 3000 mg/kg[2]	
	Subcutaneous (rat) LD50: 2250 mg/kg[2]	

Continued...

trimethylolpropane triamine ether, propoxylated	**TOXICITY** / **IRRITATION** Dermal (rabbit) LD50: 561.6 mg/kg[1] / Eye: adverse effect observed (irreversible damage)[1] Oral (Rat) LD50: 50-200 mg/kg[1] / Skin: adverse effect observed (irritating)[1]
3-aminopropyltriethoxysilane	**TOXICITY** / **IRRITATION** Dermal (rabbit) LD50: 4000 mg/kg[2] / Eye (rabbit): 0.75 mg/24h-SEVERE Intraperitoneal (Mouse) LD50: 260 mg/kg[2] / Eye (rabbit): 100 mg - mild Oral (Rat) LD50: 1750 mg/kg[2] / Skin (rabbit): 0.1 mg - mild Oral (Rat) LD50: 1780 mg/kg[2] / Skin (rabbit): 5.0 mg/24h-SEVERE
bis[3-(triethoxysilyl)propyl]amine	**TOXICITY** / **IRRITATION** dermal (rat) LD50: >2000 mg/kg[1] / Eye: adverse effect observed (irritating)[1] Oral (Rat) LD50: 3657 mg/kg[1] / Skin: adverse effect observed (irritating)[1]
1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	**TOXICITY** / **IRRITATION** Not Available / Not Available
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

pentaerythritol, propoxylated, mercaptoglycerol capped	Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation. Both the vitro skin corrosion test and the vivo skin irritation study did not show significant irritating properties A reliable in vivo eye irritation in rabbit is available, demonstrating no significant eye irritating properties. In a LLNA study it was shown that the material could elicit a SI =3. Based on this result, the material needs to be classified as a skin sensitiser, according to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures. A 90-day oral gavage study in rats was performed according to GLP and OECD 408 (1998). Based on decreased platelet count and increased incidence of follicular hypertrophy/hyperplasia in the thyroid glands in males at 250 mg/kg bw/d and above, the NOAEL was set at 75 mg/kg bw/d. Based on the available data on genetic toxicity, the substance needs not to be classified for genotoxicity according to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixture * REACh Dossier
benzyl alcohol	Unlike benzylic alcohols, the beta-hydroxyl group of the members of benzyl alkyl alcohols contributes to break down reactions but do not undergo phase II metabolic activation. Though structurally similar to cancer causing ethyl benzene, phenethyl alcohol is only of negligible concern due to limited similarity in their pattern of activity. For benzoates: Benzyl alcohol, benzoic acid and its sodium and potassium salt have a common metabolic and excretion pathway. All but benzyl alcohol are considered to be unharmful and of low acute toxicity. They may cause slight irritation by oral, dermal or inhalation exposure except sodium benzoate which doesn't irritate the skin. Adverse reactions to fragrances in perfumes and fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis, sensitivity to light, immediate contact reactions, and pigmented contact dermatitis. Airborne and connubial contact dermatitis occurs. Contact allergy is a lifelong condition, so symptoms may occur on re-exposure. Fragrance allergens act as haptens, low molecular weight chemicals that cause an immune response only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but require previous activation. A prehapten is a chemical that itself causes little or no sensitization, but is transformed into a hapten in the skin (bioactivation), usually via enzyme catalysis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. This is a member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS), based partly on their self-limiting properties as flavouring substances in food. In humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin. They also lack significant potential to cause genetic toxicity and mutations. The aryl alkyl alcohol (AAA) fragrance ingredients have diverse chemical structures, with similar metabolic and toxicity profiles. The AAA fragrances demonstrate low acute and subchronic toxicity by skin contact and swallowing. At concentrations likely to be encountered by consumers, AAA fragrance ingredients are non-irritating to the skin.
N-aminoethylpiperazine	for piperazine: Exposure to piperazine and its salts has clearly been demonstrated to cause asthma in occupational settings. No NOAEL can be estimated for respiratory sensitisation (asthma). Although the LD50 levels indicate a relatively low level of oral acute toxicity (LD50 1-5 g/kg bw), signs of neurotoxicity may appear in humans after exposure to lower doses. Based on exposure levels of up to 3.4 mg/kg/day piperazine base and a LOAEL of 110 mg/kg, there is no concern for acute toxicity In pigs, piperazine is readily absorbed from the gastrointestinal tract, and the major part of the resorbed compound is excreted as unchanged piperazine during the first 48 hours.
diethylenetriamine	Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.
tetraethylenepentamine	Triethylenetetramine is a severe irritant to skin and eyes and may induce skin sensitisation. Acute exposure to saturated vapour via inhalation was tolerated without impairment but exposure to aerosol may lead to reversible irritations of the mucous membranes in the airways. Studies done on experimental animals showed that it does not cause cancer or foetal developmental defects. Tetraethylenepentamine (TEPA) has a low acute toxicity when taken orally and a higher toxicity via the dermal route most likely due to the corrosive nature of TEPA to the skin against neutralization by stomach acid. TEPA may be corrosive to the skin and eyes. Long term dermal application may cause thickening of the epidermis and other skin changes.

Continued...

3-aminopropyltriethoxysilane	3-aminopropyltriethoxysilane (APTES) is severely irritating to the skin and eyes. Animal testing showed that prolonged exposure by inhalation may lead to a mild inflammation of the throat and changes in the cell pattern on the airway. It does not seem to cause genetic damage or adverse effects to reproduction and development.
ClearWeld™ Syringe, Part B Hardener & pentaerythritol, propoxylated, mercaptoglycerol capped & benzyl alcohol & N-aminoethylpiperazine & diethylenetriamine & N-aminoethylethanolamine & tetraethylenepentamine & 3-aminopropyltriethoxysilane	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.
ClearWeld™ Syringe, Part B Hardener & N-aminoethylpiperazine & diethylenetriamine & N-aminoethylethanolamine & tetraethylenepentamine	Ethyleneamines are very reactive and can cause chemical burns, skin rashes and asthma-like symptoms. It is readily absorbed through the skin and may cause eye blindness and irreparable damage. As such, they require careful handling.
pentaerythritol, propoxylated, mercaptoglycerol capped & N-aminoethylpiperazine & diethylenetriamine & N-aminoethylethanolamine & tetraethylenepentamine & 3-aminopropyltriethoxysilane & BIS[3-(TRIETHOXYSILYL)PROPYL]AMINE & 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.
N-aminoethylpiperazine & tetraethylenepentamine	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
N-aminoethylpiperazine & diethylenetriamine & tetraethylenepentamine & 3-aminopropyltriethoxysilane	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
diethylenetriamine & 3-aminopropyltriethoxysilane	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
diethylenetriamine & tetraethylenepentamine	For alkyl polyamines: The alkyl polyamines cluster consists of two terminal primary and at least one secondary amine groups and are derivatives of low molecular weight ethylenediamine, propylenediamine or hexanediamine. Toxicity depends on route of exposure. Cluster members have been shown to cause skin irritation or sensitisation, eye irritation and genetic defects, but have not been shown to cause cancer.
N-aminoethylethanolamine	For N-aminoethylethanolamine: The substance does not appear to cause mutations. At high doses, it may reduce fertility. N-aminoethylethanolamine may also cause developmental toxicity and birth defects.
3-aminopropyltriethoxysilane & BIS[3-(TRIETHOXYSILYL)PROPYL]AMINE & 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	Low molecular weight alkoxysilane can cause irreversible lung damage when inhaled at low dose. It is not an obvious skin irritant. However, studies suggest with repeated occupational exposure, methoxysilane may cause damage to the eye and skin as well as cancer. Overexposure to most of these materials may cause adverse health effects. Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient. There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing. Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain.
BIS[3-(TRIETHOXYSILYL)PROPYL]AMINE & 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	No significant acute toxicological data identified in literature search.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✓
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✓	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

Continued...

SECTION 12 Ecological information

12.1. Toxicity

ClearWeld™ Syringe, Part B Hardener

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

pentaerythritol, propoxylated, mercaptoglycerol capped

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	12mg/l	Not Available
LC50	96h	Fish	87mg/l	Not Available
EC50(ECx)	48h	Crustacea	12mg/l	Not Available

benzyl alcohol

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	96h	Algae or other aquatic plants	76.828mg/l	2
EC50	72h	Algae or other aquatic plants	500mg/l	2
EC50	48h	Crustacea	230mg/l	2
LC50	96h	Fish	10mg/l	4
NOEC(ECx)	336h	Fish	5.1mg/l	2

N-aminoethylpiperazine

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	495mg/l	1
EC50	48h	Crustacea	32mg/l	1
LC50	96h	Fish	>100mg/l	2
NOEC(ECx)	48h	Crustacea	18mg/l	1

diethylenetriamine

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	96h	Algae or other aquatic plants	345.6mg/l	1
BCF	1008h	Fish	<0.3-1.7	7
EC50	72h	Algae or other aquatic plants	1164mg/l	1
EC50	48h	Crustacea	16mg/l	1
ErC50	72h	Algae or other aquatic plants	1164mg/l	1
LC50	96h	Fish	175mg/l	2
NOEC(ECx)	504h	Crustacea	5.6mg/l	1

N-aminoethylethanolamine

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<0.2	7
EC50	72h	Algae or other aquatic plants	>100mg/l	2
EC50	48h	Crustacea	22mg/l	1
LC50	96h	Fish	640mg/l	2
EC0(ECx)	48h	Crustacea	10mg/l	1

bis(2-dimethylaminoethyl)ether

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	23mg/l	Not Available
EC50	48h	Crustacea	102mg/l	2
LC50	96h	Fish	100-215mg/l	Not Available
EC50(ECx)	72h	Algae or other aquatic plants	23mg/l	Not Available

trimethylhexamethylene diamine

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	29.5mg/l	Not Available
EC50(ECx)	72h	Algae or other aquatic plants	29.5mg/l	Not Available

triethylenetetramine

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<0.5	7
EC50	72h	Algae or other aquatic plants	2.5mg/l	1
EC50	48h	Crustacea	31.1mg/l	1
EC50	96h	Algae or other aquatic plants	3.7mg/l	4
ErC50	72h	Algae or other aquatic plants	2.5mg/l	1

Continued...

	LC50	96h	Fish	180mg/l	1
	EC10(ECx)	72h	Algae or other aquatic plants	0.67mg/l	1

tetraethylenepentamine

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	2.1mg/l	1
EC50	48h	Crustacea	24.1mg/l	1
NOEC(ECx)	72h	Algae or other aquatic plants	0.5mg/l	1

N-aminoethylethanolamine

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<0.2	7
EC50	72h	Algae or other aquatic plants	>100mg/l	2
EC50	48h	Crustacea	22mg/l	1
LC50	96h	Fish	640mg/l	2
EC0(ECx)	48h	Crustacea	10mg/l	1

trimethylolpropane triamine ether, propoxylated

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	13mg/l	Not Available
LC50	96h	Fish	>100mg/l	2
EC50(ECx)	48h	Crustacea	13mg/l	Not Available

3-aminopropyltriethoxysilane

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	672h	Fish	<0.53	7
EC50	72h	Algae or other aquatic plants	603mg/l	2
EC50	48h	Crustacea	>100mg/l	2
NOEC(ECx)	504h	Crustacea	>=1mg/l	2
LC50	96h	Fish	>100mg/l	2

bis[3-(triethoxysilyl)propyl]amine

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	90.9mg/l	2
EC50	48h	Crustacea	>151.9mg/l	2
LC50	96h	Fish	>200mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	51mg/l	2

1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

For ethyleneamines:
Adsorption of the ethyleneamines correlates closely with both the cation exchange capacity (CEC) and organic content of the soil. Soils with increased CEC and organic content exhibited higher affinities for these amines. This dependence of adsorption on CEC and organic content is most likely due to the strong electrostatic interaction between the positively charged amine and the negatively charged soil surface.
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
benzyl alcohol	LOW	LOW
N-aminoethylpiperazine	HIGH	HIGH
diethylenetriamine	LOW	LOW
N-aminoethylethanolamine	LOW	LOW
bis(2-dimethylaminoethyl)ether	HIGH	HIGH
trimethylhexamethylene diamine	HIGH	HIGH
triethylenetetramine	LOW	LOW
tetraethylenepentamine	LOW	LOW
N-aminoethylethanolamine	LOW	LOW
3-aminopropyltriethoxysilane	HIGH	HIGH
bis[3-(triethoxysilyl)propyl]amine	HIGH	HIGH

Continued...

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
benzyl alcohol	LOW (LogKOW = 1.1)
N-aminoethylpiperazine	LOW (LogKOW = -1.5677)
diethylenetriamine	LOW (BCF = 1.7)
N-aminoethylethanolamine	LOW (BCF = 3.7)
bis(2-dimethylaminoethyl)ether	LOW (LogKOW = -0.5386)
trimethylhexamethylene diamine	LOW (LogKOW = 1.5988)
triethylenetetramine	LOW (BCF = 5)
tetraethylenepentamine	LOW (LogKOW = -3.1604)
N-aminoethylethanolamine	LOW (BCF = 3.7)
3-aminopropyltriethoxysilane	LOW (BCF = 5.4)
bis[3-(triethoxysilyl)propyl]amine	LOW (LogKOW = 1.7302)

12.4. Mobility in soil

Ingredient	Mobility
benzyl alcohol	LOW (KOC = 15.66)
N-aminoethylpiperazine	LOW (KOC = 171.7)
diethylenetriamine	LOW (KOC = 87.53)
N-aminoethylethanolamine	MEDIUM (KOC = 3.524)
bis(2-dimethylaminoethyl)ether	LOW (KOC = 21.85)
trimethylhexamethylene diamine	LOW (KOC = 1266)
triethylenetetramine	LOW (KOC = 309.9)
tetraethylenepentamine	LOW (KOC = 1098)
N-aminoethylethanolamine	MEDIUM (KOC = 3.524)
3-aminopropyltriethoxysilane	LOW (KOC = 12150)
bis[3-(triethoxysilyl)propyl]amine	LOW (KOC = 21140000)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✗	✗	✗
vPvB	✗	✗	✗

PBT Criteria fulfilled?	No
vPvB	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Management Authority for disposal. ▸ Bury residue in an authorised landfill.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information

HAZCHEM	Not Applicable

Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number or ID**	Not Applicable

Continued...

number	
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	Class: Not Applicable Subsidiary Hazard: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard identification (Kemler): Not Applicable Classification code: Not Applicable Hazard Label: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable Tunnel Restriction Code: Not Applicable

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	ICAO/IATA Class: Not Applicable ICAO / IATA Subsidiary Hazard: Not Applicable ERG Code: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Special provisions: Not Applicable Cargo Only Packing Instructions: Not Applicable Cargo Only Maximum Qty / Pack: Not Applicable Passenger and Cargo Packing Instructions: Not Applicable Passenger and Cargo Maximum Qty / Pack: Not Applicable Passenger and Cargo Limited Quantity Packing Instructions: Not Applicable Passenger and Cargo Limited Maximum Qty / Pack: Not Applicable

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	IMDG Class: Not Applicable IMDG Subsidiary Hazard: Not Applicable
14.4. **Packing group**	Not Applicable
14.5 **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	EMS Number: Not Applicable Special provisions: Not Applicable Limited Quantities: Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable
14.2. **UN proper shipping name**	Not Applicable
14.3. **Transport hazard class(es)**	Not Applicable | Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Classification code: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable Equipment required: Not Applicable Fire cones number: Not Applicable

Continued...

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
pentaerythritol, propoxylated, mercaptoglycerol capped	Not Available
benzyl alcohol	Not Available
N-aminoethylpiperazine	Not Available
diethylenetriamine	Not Available
N-aminoethylethanolamine	Not Available
bis(2-dimethylaminoethyl)ether	Not Available
trimethylhexamethylene diamine	Not Available
triethylenetetramine	Not Available
tetraethylenepentamine	Not Available
N-aminoethylethanolamine	Not Available
trimethylolpropane triamine ether, propoxylated	Not Available
3-aminopropyltriethoxysilane	Not Available
bis[3-(triethoxysilyl)propyl]amine	Not Available
1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
pentaerythritol, propoxylated, mercaptoglycerol capped	Not Available
benzyl alcohol	Not Available
N-aminoethylpiperazine	Not Available
diethylenetriamine	Not Available
N-aminoethylethanolamine	Not Available
bis(2-dimethylaminoethyl)ether	Not Available
trimethylhexamethylene diamine	Not Available
triethylenetetramine	Not Available
tetraethylenepentamine	Not Available
N-aminoethylethanolamine	Not Available
trimethylolpropane triamine ether, propoxylated	Not Available
3-aminopropyltriethoxysilane	Not Available
bis[3-(triethoxysilyl)propyl]amine	Not Available
1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane	Not Available

SECTION 15 Regulatory information

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

pentaerythritol, propoxylated, mercaptoglycerol capped is found on the following regulatory lists

Not Applicable

benzyl alcohol is found on the following regulatory lists

Great Britain GB Biocidal Active Substances
Great Britain GB mandatory classification and labelling list (GB MCL)
Great Britain GB mandatory classification and labelling (GB MCL) technical reports

N-aminoethylpiperazine is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)

diethylenetriamine is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)
UK Workplace Exposure Limits (WELs).

N-aminoethylethanolamine is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
Great Britain GB mandatory classification and labelling list (GB MCL)

bis(2-dimethylaminoethyl)ether is found on the following regulatory lists

Not Applicable

trimethylhexamethylene diamine is found on the following regulatory lists

Continued...

Not Applicable

triethylenetetramine is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)

tetraethylenepentamine is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)

N-aminoethylethanolamine is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List | Great Britain GB mandatory classification and labelling list (GB MCL)

trimethylolpropane triamine ether, propoxylated is found on the following regulatory lists

Not Applicable

3-aminopropyltriethoxysilane is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)

bis[3-(triethoxysilyl)propyl]amine is found on the following regulatory lists

Not Applicable

1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane is found on the following regulatory lists

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	Not Available

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (bis[3-(triethoxysilyl)propyl]amine; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Canada - DSL	No (1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Canada - NDSL	No (pentaerythritol, propoxylated, mercaptoglycerol capped; benzyl alcohol; N-aminoethylpiperazine; diethylenetriamine; N-aminoethylethanolamine; bis(2-dimethylaminoethyl)ether; trimethylhexamethylene diamine; triethylenetetramine; tetraethylenepentamine; N-aminoethylethanolamine; trimethylolpropane triamine ether, propoxylated; 3-aminopropyltriethoxysilane; bis[3-(triethoxysilyl)propyl]amine; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
China - IECSC	No (1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Europe - EINEC / ELINCS / NLP	No (pentaerythritol, propoxylated, mercaptoglycerol capped; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Japan - ENCS	No (pentaerythritol, propoxylated, mercaptoglycerol capped; trimethylhexamethylene diamine; trimethylolpropane triamine ether, propoxylated; bis[3-(triethoxysilyl)propyl]amine; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Korea - KECI	No (1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
New Zealand - NZIoC	No (bis[3-(triethoxysilyl)propyl]amine; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Philippines - PICCS	No (1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
USA - TSCA	No (1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Taiwan - TCSI	No (1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Mexico - INSQ	No (pentaerythritol, propoxylated, mercaptoglycerol capped; bis(2-dimethylaminoethyl)ether; trimethylolpropane triamine ether, propoxylated; bis[3-(triethoxysilyl)propyl]amine; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Vietnam - NCI	Yes
Russia - FBEPH	No (pentaerythritol, propoxylated, mercaptoglycerol capped; trimethylolpropane triamine ether, propoxylated; bis[3-(triethoxysilyl)propyl]amine; 1-(3-(triethoxysily)propyl)-2,2-diethoxy-1-aza-2-silacyclopentane)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	10/03/2023
Initial Date	11/12/2020

Full text Risk and Hazard codes

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Continued...

H360	May damage fertility or the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H362	May cause harm to breast-fed children.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS Version Summary

Version	Date of Update	Sections Updated
7.11	10/02/2023	Hazards identification - Classification, Ecological Information - Environmental, Composition / information on ingredients - Ingredients, Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
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.
For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Skin Corrosion/Irritation Category 2, H315	Expert judgement
Sensitisation (Skin) Category 1, H317	Calculation method
Serious Eye Damage/Eye Irritation Category 1, H318	Minimum classification
Reproductive Toxicity Category 1A, H360Fd	Calculation method

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