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

1.1. Product identifier

Product form : Mixture
Product name : PRO-SET LAM-237 HARDENER
UFI : KWE0-A0GT-G005-7WEG

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

1.2.1. Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Hardener

1.2.2. Uses advised against

Restrictions on use : No uses have been identified that are advised against

1.3. Details of the supplier of the safety data sheet

Manufacturer
Wessex Resins & Adhesives Limited
Cupernham House Cupernham Lane
SO517LF Romsey – Hampshire
United Kingdom
T + 44 (0) 1794 521111
info@wessex-resins.com - www.wessexresins.co.uk

1.4. Emergency telephone number

Emergency number : + 44 (0) 207 858 1228

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	Only for healthcare professionals
United Kingdom	NHS 111/NHS 24/NHS Direct		111 0845 4647	or call a doctor

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP], as amended for UK law

Acute toxicity (oral), Category 4 H302
Acute toxicity (dermal), Category 4 H312

Skin corrosion/irritation, Category 1, Sub-Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Chronic Hazard, Category 3	H412

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Corrosive to eyes and skin. Classified as a skin sensitizer. This product contains hazardous components for the environment.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP], as amended for UK law

Hazard pictograms (CLP) :



GHS05 GHS07 GHS08

Signal word (CLP) : Danger

Contains : 3-aminomethyl-3,5,5-trimethylcyclohexylamine; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia; Propylidynetrimethanol, propoxylated, reaction products with ammonia; 4,4'-methylenebis(cyclohexylamine); N,N'-bis(3-aminopropyl)ethylenediamine; Copolymer of benzenamine and formaldehyde, hydrogenated

Hazard statements (CLP) : H302+H312 - Harmful if swallowed or in contact with skin.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H373 - May cause damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P273 - Avoid release to the environment.
P280 - Wear protective gloves, eye protection, face protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Labelling according to Regulation (EC) No 1272/2008 [CLP], as amended for UK law
3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS-No.: 2855-13-2 EC-No.: 220-666-8 EC Index-No.: 612-067-00-9	≥ 30 – < 60	Acute Tox. 4 (Oral), H302 (ATE=1030 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	CAS-No.: 9046-10-0 EC-No.: 618-561-0	≥ 30 – < 60	Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412
Propylidynetrimethanol, propoxylated, reaction products with ammonia	CAS-No.: 39423-51-3 EC-No.: 500-105-6	≥ 10 – < 30	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Acute Tox. 4 (Dermal), H312 (ATE=1100 mg/kg bodyweight) Eye Dam. 1, H318 Aquatic Chronic 2, H411
Copolymer of benzenamine and formaldehyde, hydrogenated	CAS-No.: 135108-88-2 EC-No.: 603-894-6	≥ 10 – < 30	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 3, H412
4,4'-methylenebis(cyclohexylamine)	CAS-No.: 1761-71-3 EC-No.: 217-168-8	≥ 5 – < 10	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373
N,N'-bis(3-aminopropyl)ethylenediamine	CAS-No.: 10563-26-5 EC-No.: 234-147-9	≥ 1 – < 5	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Acute Tox. 3 (Dermal), H311 (ATE=300 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317
salicylic acid	CAS-No.: 69-72-7 EC-No.: 200-712-3 EC Index-No.: 607-732-00-5	< 1	Repr. 2, H361d Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Eye Dam. 1, H318

Specific concentration limits:

Name	Product identifier	Specific concentration limits
3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS-No.: 2855-13-2 EC-No.: 220-666-8 EC Index-No.: 612-067-00-9	(0.001 ≤ C ≤ 100) Skin Sens. 1A, H317

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing difficulties persist : Give oxygen or artificial respiration if necessary.

First-aid measures after skin contact : Wash immediately with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. Sensitisation : contact can cause allergic reactions in humans. Seek medical attention if ill effect develops.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Give nothing or a little water to drink. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : Inhalation may cause irritation (cough, short breathing, difficulty in breathing).

Symptoms/effects after skin contact : May cause sensitisation by skin contact. Causes severe burns. In case of repeated or prolonged exposure : irritation (itching, redness, blistering).

Symptoms/effects after eye contact : Causes serious eye damage. Exposed may experience eye tearing, redness and discomfort.

Symptoms/effects after ingestion : May cause discomfort. May cause stomach cramps and vomiting.

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

Treat symptomatically. May cause sensitisation of susceptible persons by skin contact.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : If there is a fire close by, use suitable extinguishing agents. Water spray. Dry powder. Foam.

Unsuitable extinguishing media : Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable. Heating will cause a rise in pressure with a risk of bursting. In the presence of water, forms corrosive solutions.

Explosion hazard : No data available on direct explosion hazard. No data available on indirect explosion hazard.

Hazardous decomposition products in case of fire : Toxic and corrosive vapours may be released.

5.3. Advice for firefighters

Precautionary measures fire : Evacuate area. Eliminate all ignition sources if safe to do so.

Firefighting instructions : Evacuate area. Eliminate all ignition sources if safe to do so. Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : On exposure to high temperature, may decompose, releasing toxic gases.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Collect spillage. Dispose of contaminated materials in accordance with current regulations.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Keep away from combustible material.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Keep unnecessary and unprotected personnel away from the spillage. Turn leaking containers leak-side up to prevent the escape of liquid. For a large spillage, contain the spillage by bunding. Collect the residue by means of a non-combustible absorbent material. Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up	:	Mechanically recover the product.
Other information	:	Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Keep container tightly closed and away from heat, sparks and flame.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store in a well-ventilated place. Keep cool.
Storage area	:	Store in a well-ventilated place.
Special rules on packaging	:	Store in a closed container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	0.073 mg/m³
Long-term - local effects, inhalation	0.073 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	0.3 mg/kg bodyweight/day

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
Long-term - systemic effects,oral	0.526 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.06 mg/l
PNEC aqua (marine water)	0.006 mg/l
PNEC aqua (intermittent, freshwater)	0.23 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	5784 mg/kg dwt
PNEC sediment (marine water)	0.578 mg/kg dwt
PNEC (Soil)	
PNEC soil	1121 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	3.18 mg/l

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	2.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	5.29 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.015 mg/l
PNEC aqua (marine water)	0.0142 mg/l
PNEC aqua (intermittent, freshwater)	0.15 mg/l
PNEC aqua (intermittent, marine water)	0.142 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.132 mg/kg dwt
PNEC sediment (marine water)	0.125 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.0176 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	6.93 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	7.5 mg/l

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1.6 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14.1 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.0044 mg/l
PNEC aqua (marine water)	0.00044 mg/l
PNEC aqua (intermittent, freshwater)	0.044 mg/l

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
PNEC (Sediment)	
PNEC sediment (freshwater)	0.0224 mg/kg dwt
PNEC sediment (marine water)	0.00224 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.0019 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

salicylic acid (69-72-7)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	2.3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	5 mg/m³
Long-term - local effects, inhalation	5 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	4 mg/kg bodyweight/day
Long-term - systemic effects,oral	1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	4 mg/m³
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.2 mg/l
PNEC aqua (marine water)	0.02 mg/l
PNEC aqua (intermittent, freshwater)	1 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.42 mg/kg dwt
PNEC sediment (marine water)	0.142 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.166 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	162 mg/l

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	0.35 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.234 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.125 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.217 mg/m³
Long-term - systemic effects, dermal	0.125 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.144 mg/l

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
PNEC aqua (marine water)	0.0144 mg/l
PNEC aqua (intermittent, freshwater)	0.43 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	45.3 mg/kg dwt
PNEC sediment (marine water)	4.53 mg/kg dwt
PNEC (Soil)	
PNEC soil	8.96 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	3.4 mg/l

Copolymer of benzenamine and formaldehyde, hydrogenated (135108-88-2)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	6 mg/kg bodyweight/day
Acute - systemic effects, inhalation	2 mg/m³
Long-term - systemic effects, dermal	2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.2 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.015 mg/l
PNEC aqua (marine water)	0.0015 mg/l
PNEC aqua (intermittent, freshwater)	0.15 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	15 mg/kg dwt
PNEC sediment (marine water)	1.5 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.8 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	1.9 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Chemical goggles or safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Disposable gloves, Reusable gloves	Nitrile rubber (NBR)	2 (> 30 minutes)	≥ 0.13		EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
Disposable half mask	Type A - High-boiling (>65 °C) organic compounds, Type P3	Protection for Liquid particles, Gas protection	EN 140, EN 14387
Reusable half mask	Type A - High-boiling (>65 °C) organic compounds, Type P3	Protection for Liquid particles, Gas protection	EN 140, EN 14387
Full face mask	Type A - High-boiling (>65 °C) organic compounds, Type P3	Protection for Liquid particles, Gas protection	EN 136, EN 14387

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Pale Yellow to Amber.
Appearance	:	Clear liquid.
Odour	:	ammonia.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Non flammable.
Explosive properties	:	Not determined.
Oxidising properties	:	Does not meet the criteria for classification as oxidising.
Explosive limits	:	Not applicable
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available

Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	12.2
Viscosity, kinematic	:	Not available
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	< 1 mm Hg @ 22°C
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	0.95
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	:	Harmful if swallowed.
Acute toxicity (dermal)	:	Harmful in contact with skin.
Acute toxicity (inhalation)	:	Not classified

PRO-SET LAM-237 HARDENER	
ATE CLP (oral)	920.588 mg/kg bodyweight
ATE CLP (dermal)	1762.35 mg/kg bodyweight

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
LD50 oral rat	1030 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
LD50 oral rat	242 mg/kg Source: National Library of Medicine
LD50 dermal rabbit	360 mg/kg Source: National Library of Medicine

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
LD50 oral rat	550 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure), 95% CL: 123,9 - 3930
LD50 dermal rat	> 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LD50 dermal rabbit	614 mg/kg Source: KOSHA MSDS

4,4'-methylenebis(cyclohexylamine) (1761-71-3)	
LD50 oral rat	1000 mg/kg Source: EU ICLID
LD50 dermal rabbit	2110 mg/kg

salicylic acid (69-72-7)	
LD50 oral rat	891 mg/kg Source: International Uniform ChemicaL Information Database
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 10000 mg/kg Source: International Uniform ChemicaL Information Database
LC50 Inhalation - Rat	> 0.225 mg/kg Source: International Uniform ChemicaL Information Database

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
LD50 oral rat	1140 mg/kg Source: ECHA
LD50 dermal rabbit	190 mg/kg Source: ChemIDplus

Copolymer of benzenamine and formaldehyde, hydrogenated (135108-88-2)	
LD50 oral rat	50 – 300 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rabbit	> 1000 mg/kg bodyweight Animal: rabbit, Guideline: other:

Skin corrosion/irritation : Causes severe skin burns.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
pH	12.3

4,4'-methylenebis(cyclohexylamine) (1761-71-3)	
pH	11.6 Temp.: 25 °C

salicylic acid (69-72-7)	
pH	2.4 Source: HSDB

Serious eye damage/irritation : Causes serious eye damage.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
pH	12.3

4,4'-methylenebis(cyclohexylamine) (1761-71-3)	
pH	11.6 Temp.: 25 °C

salicylic acid (69-72-7)	
pH	2.4 Source: HSDB

Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
LOAEL (oral, rat, 90 days)	160 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
NOAEL (oral, rat, 90 days)	≥ 100 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	> 160 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

4,4'-methylenebis(cyclohexylamine) (1761-71-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

salicylic acid (69-72-7)	
NOAEL (oral, rat, 90 days)	50 mg/kg bodyweight Animal: rat

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
NOAEL (oral, rat, 90 days)	30 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Copolymer of benzenamine and formaldehyde, hydrogenated (135108-88-2)	
NOAEL (oral, rat, 90 days)	15 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
Viscosity, kinematic	19 mm²/s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm²/s)'

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
Viscosity, kinematic	110 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Harmful to aquatic life with long lasting effects.

Not rapidly degradable

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
LC50 - Fish [1]	110 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	23 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	37 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	> 50 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
EC50 - Crustacea [1]	80 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	15 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	2.1 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	13 mg/l Test organisms (species): Daphnia magna

4,4'-methylenebis(cyclohexylamine) (1761-71-3)	
LC50 - Fish [1]	46 – 100 mg/l Source: IUCLID
LC50 - Fish [2]	68 mg/l Test organisms (species): Leuciscus idus
LOEC (chronic)	7.2 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

salicylic acid (69-72-7)	
LC50 - Fish [1]	90 mg/l Source: IUCLID
EC50 - Crustacea [1]	870 mg/l Source: The ECOTOXicology database
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
LC50 - Fish [1]	220 – 460 mg/l Source: ECHA
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 100 mg/l Source: ECHA
LOEC (chronic)	10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	7.2 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Copolymer of benzenamine and formaldehyde, hydrogenated (135108-88-2)	
LC50 - Fish [1]	63 mg/l Test organisms (species): Poecilia reticulata

Copolymer of benzenamine and formaldehyde, hydrogenated (135108-88-2)	
EC50 - Crustacea [1]	15.4 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	43.94 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
Partition coefficient n-octanol/water (Log Pow)	1.9

Propylidynetrimethanol, propoxylated, reaction products with ammonia (39423-51-3)	
Partition coefficient n-octanol/water (Log Pow)	-1.41 Source: EPI SUITE

4,4'-methylenebis(cyclohexylamine) (1761-71-3)	
Partition coefficient n-octanol/water (Log Pow)	3.26

salicylic acid (69-72-7)	
Partition coefficient n-octanol/water (Log Pow)	2.26 Source: National Library of Medicine

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.66 Source: ECHA

12.4. Mobility in soil

salicylic acid (69-72-7)	
Mobility in soil	23.96 Source: Quantitative Structure Activity Relation

N,N'-bis(3-aminopropyl)ethylenediamine (10563-26-5)	
Mobility in soil	3090 – 5012 Source: ECHA

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

HP Code	:	HP5 - “Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:” waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - “Acute Toxicity:” waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP8 - “Corrosive:” waste which on application can cause skin corrosion. HP13 - “Sensitising:” waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs. HP14 - “Ecotoxic:” waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR)	:	UN 2735
UN-No. (IMDG)	:	UN 2735
UN-No. (IATA)	:	UN 2735
UN-No. (ADN)	:	UN 2735
UN-No. (RID)	:	UN 2735

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)
Proper Shipping Name (IMDG)	:	AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)
Proper Shipping Name (IATA)	:	Amines, liquid, corrosive, n.o.s. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)
Proper Shipping Name (ADN)	:	AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)
Proper Shipping Name (RID)	:	AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)
Transport document description (ADR)	:	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III, (E)
Transport document description (IMDG)	:	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III
Transport document description (IATA)	:	UN 2735 Amines, liquid, corrosive, n.o.s. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III
Transport document description (ADN)	:	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III
Transport document description (RID)	:	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS : 3-aminomethyl-3,5,5-trimethylcyclohexylamine ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	:	8
Danger labels (ADR)	:	8

:



IMDG

Transport hazard class(es) (IMDG) : 8

Danger labels (IMDG) : 8

:



IATA

Transport hazard class(es) (IATA) : 8

Danger labels (IATA) : 8

:



ADN

Transport hazard class(es) (ADN) : 8

Danger labels (ADN) : 8

:



RID

Transport hazard class(es) (RID) : 8

Danger labels (RID) : 8

:



14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C7

Special provisions (ADR) : 274

Limited quantities (ADR) : 5l

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P001, IBC03, LP01, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR)	:	T7
Portable tank and bulk container special provisions (ADR)	:	TP1, TP28
Tank code (ADR)	:	L4BN
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V12
Hazard identification number (Kemler No.)	:	80
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2X

Transport by sea

Special provisions (IMDG)	:	223, 274
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P001, LP01
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T7
Tank special provisions (IMDG)	:	TP1, TP28
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-B
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SGG18, SG35
Properties and observations (IMDG)	:	Colourless to yellowish liquids or solutions with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. Reacts violently with acids. Cause burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y841
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	852
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	856
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A3, A803
ERG code (IATA)	:	8L

Inland waterway transport

Classification code (ADN)	:	C7
Special provisions (ADN)	:	274
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	C7
Special provisions (RID)	:	274
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T7
Portable tank and bulk container special provisions (RID)	:	TP1, TP28

Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12
Colis express (express parcels) (RID)	:	CE8
Hazard identification number (RID)	:	80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

Abbreviations and acronyms:	
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.

Full text of H- and EUH-statements:	
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.
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.
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

The classification complies with : ATP 12

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