

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

1.1. Product identifier

Product form : Article
Product name : Altro Expand Coloured / Altro Expand Vertical Hardener
Product code : E_H; EV_H
Product group : End product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
Use of the substance/mixture : Amine Epoxy Hardener - Industrial flooring & wall coatings.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Altro Resin Systems
Unit 3 Station Road Industrial Estate
Station Road
GB- DT2 0AE Maiden Newton Dorchester
T 01300 320620
sds@altro.com - www.altro.com

1.4. Emergency telephone number

Emergency number : 01462 480480
Monday - Friday 09:00 - 17:00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GB CLP (SI 2019:720 as amended)

Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 1, Sub-Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to GB CLP (SI 2019:720 as amended)

Hazard pictograms (GB CLP) :



GHS05

GHS07

GHS09

Signal word (GB CLP) : Danger

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Contains	: 2-PIPERAZIN-1-YLETHYLAMINE; 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL; Bis((dimethylamino)methyl)phenol; Amines, coco alkyl; Phenol, styrenated; 2,2,4-Trimethylhexane-1-6-diamine; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia; 3-AMINOPROPYLDIMETHYLAMINE; BENZYL ALCOHOL; 1,3-Benzenedimethanamine; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine; Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols; Nitric acid, ammonium calcium salt
Hazard statements (GB CLP)	: H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (GB CLP)	: P260 - Do not breathe vapours, fume. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear eye protection, protective clothing, protective gloves.

2.3. Other hazards

Results of PBT and vPvB assessment

This substance does not meet the PBT criteria of UK REACH regulation, annex XIII

This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

Component	
Substance(s) not meeting the PBT criteria of UK REACH regulation, in accordance with Annex XIII	2-PIPERAZIN-1-YLETHYLAMINE (140-31-8), 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2), Bis((dimethylamino)methyl)phenol (71074-89-0), Amines, coco alkyl (61788-46-3), Phenol, styrenated (61788-44-1), 2,2,4-Trimethylhexane-1-6-diamine (25513-64-8), Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0), 3-AMINOPROPYLDIMETHYLAMINE (109-55-7), BENZYL ALCOHOL (100-51-6), 1,3-Benzenedimethanamine (1477-55-0), ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2), Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols, ETHANOL (64-17-5), Nitric acid, ammonium calcium salt (15245-12-2)
Substance(s) not meeting the vPvB criteria of UK REACH regulation, in accordance with Annex XIII	2-PIPERAZIN-1-YLETHYLAMINE (140-31-8), 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2), Bis((dimethylamino)methyl)phenol (71074-89-0), Amines, coco alkyl (61788-46-3), Phenol, styrenated (61788-44-1), 2,2,4-Trimethylhexane-1-6-diamine (25513-64-8), Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0), 3-AMINOPROPYLDIMETHYLAMINE (109-55-7), BENZYL ALCOHOL (100-51-6), 1,3-Benzenedimethanamine (1477-55-0), ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2), Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols, ETHANOL (64-17-5), Nitric acid, ammonium calcium salt (15245-12-2)

Results of Endocrine Disruptor assessment

The substance is not included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP

Component	
Substance(s) considered as endocrine disrupting. They are either included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or are identified to have endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP	Phenol, styrenated(61788-44-1)

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Component

Substance(s) not considered as endocrine disrupting. They are not included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, nor identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP	2-PIPERAZIN-1-YLETHYLAMINE(140-31-8), 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL(90-72-2), Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols, 1,3-Benzenedimethanamine(1477-55-0), Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia(9046-10-0), 2,2,4-Trimethylhexane-1-6-diamine(25513-64-8), ETHANOL(64-17-5), Nitric acid, ammonium calcium salt(15245-12-2), Amines, coco alkyl(61788-46-3), Bis((dimethylamino)methyl)phenol(71074-89-0), BENZYL ALCOHOL(100-51-6), ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine(2855-13-2), 3-AMINOPROPYLDIMETHYLAMINE(109-55-7)
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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
2-PIPERAZIN-1-YLETHYLAMINE	CAS-No.: 140-31-8 EC-No.: 205-411-0 UK Index-No.: 612-105-00-4	≥ 10 – < 15	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Acute Tox. 3 (Dermal), H311 (ATE=866 mg/kg bodyweight) Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 2, H361 STOT RE 1, H372 Aquatic Chronic 3, H412
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL	CAS-No.: 90-72-2 EC-No.: 202-013-9 UK Index-No.: 603-069-00-0	≥ 5 – < 10	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Corr. 1C, H314 Eye Dam. 1, H318
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	EC-No.: 701-443-9	≥ 3 – < 10	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411
Phenol, styrenated substance identified as having endocrine disrupting properties	CAS-No.: 61788-44-1 EC-No.: 262-975-0	≥ 3 – < 10	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411
1,3-Benzenedimethanamine	CAS-No.: 1477-55-0 EC-No.: 216-032-5	≥ 1 – < 5	Acute Tox. 4 (Oral), H302 (ATE=930 mg/kg bodyweight) Acute Tox. 4 (Inhalation:dust,mist), H332 (ATE=2.4 mg/l/4h) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	CAS-No.: 9046-10-0 EC-No.: 618-561-0	≥ 3 – < 5	Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412

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Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
2,2,4-Trimethylhexane-1-6-diamine	CAS-No.: 25513-64-8 EC-No.: 247-063-2	≥ 0.1 – < 3	Acute Tox. 4 (Oral), H302 (ATE=910 mg/kg bodyweight) Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317
ETHANOL substance with workplace exposure limit(s)	CAS-No.: 64-17-5 EC-No.: 200-578-6 UK Index-No.: 603-002-00-5	≥ 1 – < 3	Flam. Liq. 2, H225 Eye Irrit. 2, H319
Nitric acid, ammonium calcium salt	CAS-No.: 15245-12-2 EC-No.: 239-289-5	≥ 1 – < 3	Acute Tox. 4 (Oral), H302 (ATE=1150 mg/kg bodyweight) Eye Dam. 1, H318
Amines, coco alkyl	CAS-No.: 61788-46-3 EC-No.: 262-977-1 UK Index-No.: 612-285-00-4	≥ 0.1 – < 3	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Bis((dimethylamino)methyl)phenol	CAS-No.: 71074-89-0	≥ 0.1 – < 3	Skin Corr. 1C, H314
Portaryte B 45	-	≥ 1 – < 3	Aquatic Chronic 3, H412
BENZYL ALCOHOL	CAS-No.: 100-51-6 EC-No.: 202-859-9 UK Index-No.: 603-057-00-5	≥ 1 – < 3	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Eye Irrit. 2, H319 Skin Sens. 1B, H317
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine	CAS-No.: 2855-13-2 EC-No.: 220-666-8 UK Index-No.: 612-067-00-9	≥ 0.1 – < 3	Acute Tox. 4 (Oral), H302 (ATE=1030 mg/kg bodyweight) Acute Tox. 4 (Dermal), H312 (ATE=1100 mg/kg bodyweight) Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Chronic 3, H412
3-AMINOPROPYLDIMETHYLAMINE	CAS-No.: 109-55-7 EC-No.: 203-680-9 UK Index-No.: 612-061-00-6	< 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 (ATE=1600 mg/kg bodyweight) Acute Tox. 4 (Dermal), H312 (ATE=1200 mg/kg bodyweight) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335

Specific concentration limits:

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

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

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Take off all contaminated clothing and wash its before reuse.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. Get medical advice/attention if you feel unwell.

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

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/effects after skin contact	: irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: Causes eye irritation. redness, itching, tears.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract. May cause redness and soreness of the mouth and throat. Corrosive burns may appear around the lips.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide (CO ₂). Dry powder. Water fog. Alcohol-resistant foam.
Unsuitable extinguishing media	: Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: In case of fire and/or explosion do not breathe fumes. On burning: release of toxic gases/vapours. Carbon oxides (CO, CO ₂).
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5.3. Advice for firefighters

Firefighting instructions	: Control run-off water by containing and keeping it out of sewers and watercourses.
Protection during firefighting	: Use self-contained breathing apparatus and chemically protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. No flames, no sparks. Eliminate all sources of ignition.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment. Contain the spilled material by bunding.

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6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.
- Other information : Dispose of materials or solid residues at an authorized site.

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 : Provide local exhaust or general room ventilation. Avoid contact with skin and eyes. Contaminated work clothing should not be allowed out of the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool. Keep only in original container. Store in a dry place. Store in a closed container.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

ETHANOL (64-17-5)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	380 mg/m ³
	200 ppm
WEL STEL (OEL STEL)*	1140 mg/m ³
	600 ppm
*STEL value is calculated based on the TWA limit	

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

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

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8.2.2. Personal protection equipment

Personal protective equipment:

Gloves. Safety glasses. Protective clothing.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Wear eye protection

8.2.2.2. Skin protection

Skin and body protection:

Avoid contact with skin

Hand protection:

Standard EN 374 - Protective gloves against chemicals.

Other skin protection

Materials for protective clothing:

Keep work clothing separately

8.2.2.3. Respiratory protection

Respiratory protection:

Wear suitable respiratory equipment in case of insufficient ventilation

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
Odour	: Not available
Odour threshold	: Not available
pH	: No specific test data are available.
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flash point	: ~ 120°C
Flammability	: Not available
Explosive limits	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Relative vapour density at 20°C	: Not available
Relative density	: Not available
Density	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
Viscosity, kinematic	: Not available
Explosive properties	: Not available

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9.2. Other information

Particle characteristics : Not applicable

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 of use.

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

Avoid heat, flames or sparks.

10.5. Incompatible materials

Reactive metals (eg. sodium, calcium, zinc ect). Materials reactive with hydroxyl compounds. Organic acids (e.g. acetic acid, citric acid ect.). Mineral acids, sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agent.

10.6. Hazardous decomposition products

Nitric acid (HNO₃), Ammonia, Nitrogen oxides (NO_x) Nitrogen oxides can react with water vapour to form corrosive nitric acid, Carbon monoxide (CO), Carbon dioxide (CO₂), Aldehydes and flammable hydrocarbon fragments.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Altro Expand Coloured / Altro Expand Vertical Hardener	
ATE UK (oral)	1572.767 mg/kg bodyweight
2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
LD50 oral rat	≈ 2097 mg/kg bodyweight Animal: rat, Animal sex: male
LD50 oral	2140 mg/kg
LD50 dermal rabbit	866 mg/kg bodyweight Animal: rabbit, Animal sex: male
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2)	
LD50 oral rat	2169 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401.
Phenol, styrenated (61788-44-1)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 oral	Animal: Rat
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	5010 mg/kg Animal: Rabbit

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Phenol, styrenated (61788-44-1)	
LC50 Inhalation - Rat	> 4.92 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))
2,2,4-Trimethylhexane-1-6-diamine (25513-64-8)	
LD50 oral rat	910 mg/kg bodyweight Animal: rat, Animal sex: male
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
LD50 oral rat	2885 mg/kg similar to OECD guideline 401
LD50 dermal rabbit	2979.7 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 993,8 - 8934,1
LC50 Inhalation - Rat	> 0.74 mg/l 8h (IRT) no mortality was observed.
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
LD50 oral rat	1600 mg/kg
LD50 dermal rat	400 – 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal	2138.7 mg/kg
LC50 Inhalation - Rat	> 4.31 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
BENZYL ALCOHOL (100-51-6)	
LD50 oral rat	1200 mg/kg
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity)
LD50 dermal	≈ 2500
LC50 Inhalation - Rat	5.4 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
1,3-Benzenedimethanamine (1477-55-0)	
LD50 oral rat	930 mg/kg
LD50 dermal rat	> 3100 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	2000 mg/kg
LC50 Inhalation - Rat	3.89 mg/l
LC50 Inhalation - Rat [ppm]	1700 ppm/1h
LC50 Inhalation - Rat (Dust/Mist)	2.4 mg/l/4h
ISOPHORONEDIAMINE / 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)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5.01 mg/l/4h
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg

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ETHANOL (64-17-5)	
LD50 oral rat	15010 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 14450 - 15560
LD50 oral	8300 mg/kg bodyweight Animal: mouse
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	95.6 – 125 mg//4h
LC50 Inhalation - Rat (Vapours)	116.9 mg//4h
Nitric acid, ammonium calcium salt (15245-12-2)	
LD50 oral rat	300 – 2000 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), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity), Guideline: other:
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
Skin corrosion/irritation	: Causes severe skin burns. pH: No specific test data are available.
2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
pH	12
Phenol, styrenated (61788-44-1)	
pH	6.85 Temp.: 30 °C Concentration: 1 vol%
Portaryte B 45	
pH	8 – 9
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
pH	11.6 pH (concentrated solution): 11.3
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
pH	11.6
Serious eye damage/irritation	: Causes serious eye damage. pH: No specific test data are available.
2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
pH	12
Phenol, styrenated (61788-44-1)	
pH	6.85 Temp.: 30 °C Concentration: 1 vol%
Portaryte B 45	
pH	8 – 9
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
pH	11.6 pH (concentrated solution): 11.3
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
pH	11.6
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)

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Portaryte B 45	
NOAEL (chronic, oral, animal/male, 2 years)	60 mg/kg bodyweight Animal: rat, Animal sex: male, Remarks on results: other:
NOAEL (chronic, oral, animal/female, 2 years)	75 mg/kg bodyweight Animal: rat, Animal sex: female, Remarks on results: other:
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
NOAEL (chronic, oral, animal/male, 2 years)	8 mg/kg bodyweight Animal: mouse, Animal sex: male
Reproductive toxicity	: Reproductive toxicity: Not classified (Based on available data, the classification criteria are not met). lactation: Not classified (Based on available data, the classification criteria are not met).
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
Amines, coco alkyl (61788-46-3)	
STOT-single exposure	May cause respiratory irritation.
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
STOT-single exposure	May cause respiratory irritation.
BENZYL ALCOHOL (100-51-6)	
NOAEL (oral, rat)	400 mg/kg bodyweight Method:- 451
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met).
2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2)	
NOAEL (oral, rat, 90 days)	15 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
Amines, coco alkyl (61788-46-3)	
STOT-repeated exposure	May cause damage to organs (gastro-intestinal tract, liver, immune system) through prolonged or repeated exposure.
Phenol, styrenated (61788-44-1)	
LOAEL (oral, rat, 90 days)	337 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
NOAEL (dermal, rat/rabbit, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
2,2,4-Trimethylhexane-1-6-diamine (25513-64-8)	
LOAEL (oral, rat, 90 days)	60 mg/kg bodyweight Animal: rat
NOAEL (oral, rat, 90 days)	10 mg/kg bodyweight Animal: rat
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
LOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
LOAEC (inhalation, rat, vapour, 90 days)	0.323 mg/l air Animal: rat
NOAEC (inhalation, rat, vapour, 90 days)	0.144 mg/l air Animal: rat
BENZYL ALCOHOL (100-51-6)	
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: other:

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ISOPHORONEDIAMINE / 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)
ETHANOL (64-17-5)	
LOAEL (oral, rat, 90 days)	3200 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	1730 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Remarks on results: other:
NOAEL (subchronic, oral, animal/male, 90 days)	< 9700 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
NOAEL (subchronic, oral, animal/female, 90 days)	> 9400 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
Viscosity, kinematic	14.388 mm ² /s
Reaction products of di-, tri- and tetra-propoxyated propane-1,2-diol with ammonia (9046-10-0)	
Viscosity, kinematic	10.9 mm ² /s
BENZYL ALCOHOL (100-51-6)	
Viscosity, kinematic	4.851 mm ² /s
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
Viscosity, kinematic	19 mm ² /s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm ² /s)'
ETHANOL (64-17-5)	
Viscosity, kinematic	1.488 mm ² /s

Other information

Endocrine disrupting properties

No additional information available

Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

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

2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
LC50 - Fish [1]	2190 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	58 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Cyprinus carpio

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2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2)	
LC50 - Fish [2]	718 mg/l
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	46.7 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	25.5 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	84 mg/l Test organisms (species): Desmodesmus subspicatus
Phenol, styrenated (61788-44-1)	
LC50 - Fish [1]	14.8 mg/l
EC50 72h - Algae [1]	3.14 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	0.115 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
2,2,4-Trimethylhexane-1-6-diamine (25513-64-8)	
EC50 72h - Algae [1]	43.5 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
LOEC (chronic)	1.02 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	1.02 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 10.9 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '30 d'
Portaryte B 45	
EC50 72h - Algae [1]	> 1.15 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	> 30.07 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
LC50 - Fish [1]	> 15 mg/l Test organisms (species): Oncorhynchus mykiss
LC50 - Fish [2]	772.14 mg/l Test organisms (species): Cyprinodon variegatus
EC50 - Crustacea [1]	80 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	418.34 mg/l Test organisms (species): Arcatia tonsa
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)
NOEC (chronic)	7.64 mg/l Test organisms (species):
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
LC50 - Fish [1]	122 mg/l Test organisms (species): Leuciscus idus melanotus
EC50 - Crustacea [1]	59.46 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	34 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	30 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
LOEC (chronic)	6.06 mg/l Test organisms (species): Daphnia magna Duration: '22 d'

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3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
NOEC (chronic)	3.64 mg/l Test organisms (species): Daphnia magna Duration: '22 d'
BENZYL ALCOHOL (100-51-6)	
LC50 - Fish [1]	460 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	230 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	770 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC chronic fish	48.897 mg/l Test organisms (species): other: Duration: '30 d'
1,3-Benzenedimethanamine (1477-55-0)	
LC50 - Fish [1]	87.6 mg/l Test organisms (species): Oryzias latipes
LC50 - Fish [2]	10 – 100 mg/l
EC50 - Crustacea [1]	15.2 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	20.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	33.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
LOEC (chronic)	15 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	4.7 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic crustacea	4.7 mg/l Test species: Daphnia magna
ISOPHORONEDIAMINE / 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 mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	
LC50 - Fish [1]	14.8 mg/l Fish -(LL50)
EC50 - Crustacea [1]	4.6 mg/l Test species:- Daphnia magna (Water flea), (EC50)
EC50 72h - Algae [1]	3.14 mg/l Test species:- Scenedesmus sp. (EL50)
ETHANOL (64-17-5)	
LC50 - Fish [1]	14.2 g/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 10000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	275 mg/l Test organisms (species): Chlorella vulgaris
NOEC (chronic)	9.6 mg/l Test organisms (species): Daphnia magna Duration: '9 d'
NOEC chronic crustacea	9.6 mg/l Test organisms (species): Daphnia magna
NOEC chronic algae	280 mg/l Test organisms (species): Lemna gibbous
Nitric acid, ammonium calcium salt (15245-12-2)	
LC50 - Fish [1]	> 98.6 mg/l Test organisms (species): Rainbow Trout

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Nitric acid, ammonium calcium salt (15245-12-2)	
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	490 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	
Persistence and degradability	Not rapidly degradable
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2)	
Persistence and degradability	Not rapidly degradable
Bis((dimethylamino)methyl)phenol (71074-89-0)	
Persistence and degradability	Not rapidly degradable
Amines, coco alkyl (61788-46-3)	
Persistence and degradability	Not rapidly degradable
Phenol, styrenated (61788-44-1)	
Persistence and degradability	Not rapidly degradable
2,2,4-Trimethylhexane-1-6-diamine (25513-64-8)	
Persistence and degradability	Not rapidly degradable
Portaryte B 45	
Persistence and degradability	Not rapidly degradable
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
Persistence and degradability	Not readily biodegradable.
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	
Persistence and degradability	Not rapidly degradable
BENZYL ALCOHOL (100-51-6)	
Persistence and degradability	Readily biodegradable.
1,3-Benzenedimethanamine (1477-55-0)	
Persistence and degradability	Not rapidly degradable
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
Persistence and degradability	Not rapidly degradable
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	
Persistence and degradability	Not rapidly degradable
ETHANOL (64-17-5)	
Persistence and degradability	Not rapidly degradable

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Nitric acid, ammonium calcium salt (15245-12-2)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

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This substance does not meet the PBT criteria of UK REACH regulation, annex XIII

This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

Component

2-PIPERAZIN-1-YLETHYLAMINE (140-31-8)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (90-72-2)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Bis((dimethylamino)methyl)phenol (71074-89-0)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Amines, coco alkyl (61788-46-3)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Phenol, styrenated (61788-44-1)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
2,2,4-Trimethylhexane-1-6-diamine (25513-64-8)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
3-AMINOPROPYLDIMETHYLAMINE (109-55-7)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
BENZYL ALCOHOL (100-51-6)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
1,3-Benzenedimethanamine (1477-55-0)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
ETHANOL (64-17-5)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Nitric acid, ammonium calcium salt (15245-12-2)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

12.6. Other adverse effects

Ozone : Not classified (Based on available data, the classification criteria are not met)

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Must follow special treatment according to local regulation.
Ecological waste information	: Avoid release to the environment.
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. HP10 - "Toxic for reproduction:" waste which has adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring. 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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2735	UN 2735	UN 2735	UN 2735	UN 2735
14.2. UN proper shipping name				
AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl))	AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl))	Amines, liquid, corrosive, n.o.s. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl))	AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl))	AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl))
Transport document description				
UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl)), 8, II, (E), ENVIRONMENTALLY HAZARDOUS	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl)), 8, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2735 Amines, liquid, corrosive, n.o.s. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl)), 8, II, ENVIRONMENTALLY HAZARDOUS	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl)), 8, II, ENVIRONMENTALLY HAZARDOUS	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (contains(2,4,6,-TRIS(DIMETHYLAMINOETHYL)PHENOL; amines coco alkyl)), 8, II, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
8	8	8	8	8
14.4. Packing group				
II	II	II	II	II

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ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: C7
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02
Mixed packing provisions (ADR)	: MP15
Portable tank and bulk container instructions (ADR)	: T11
Portable tank and bulk container special provisions (ADR)	: TP1, TP27
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Hazard identification number (Kemler No.)	: 80
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2X

Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T11
Tank special provisions (IMDG)	: TP1, TP27
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: A
Segregation (IMDG)	: 18 - Alkalis (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)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
Special provisions (IATA)	: A3, A803
ERG code (IATA)	: 8L

Inland waterway transport

Classification code (ADN)	: C7
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Special provisions (ADN)	: 274
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
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)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T11
Portable tank and bulk container special provisions (RID)	: TP1, TP27
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE6
Hazard identification number (RID)	: 80

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. National regulations

UK REACH Annex XVII (Restriction List)

This product contains no substance(s) listed on UK REACH Annex XVII (Restriction List) equal to or above the level of SDS disclosure

UK REACH Annex XIV (Authorisation List)

This product contains no substance(s) listed on UK REACH Annex XIV (Authorisation List) equal to or above the 0.1% level of disclosure

UK REACH Candidate List (SVHC)

This product contains no substance(s) listed on the UK REACH Candidate List (SVHC).

GB PIC Regulation (Prior Informed Consent)

This product contains no substance(s) listed on the GB PIC List equal to or above the level of SDS disclosure

POP Regulation (Persistent Organic Pollutants)

This product contains no substance(s) listed on the GB POP List equal to or above the level of SDS disclosure

Ozone Regulation (S.I. No. 168 of 2015)

This product contains no substance(s) listed on the GB Ozone Depletion List equal to or above the level of SDS disclosure

Control of Poisons and Explosives Precursors Act

This product contains no substance(s) listed as a reportable poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains substance(s) listed on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure: Calcium ammonium nitrate - 15245-12-2

This substance is not listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations

Drug Precursors Regulation (EC 273/2004)

This product contains no substance(s) listed on the GB Drug Precursors List equal to or above the level of SDS disclosure

Altro Expand Coloured / Altro Expand Vertical Hardener

Safety Data Sheet

According REACH Regulation 1907/2006 as retained in UK law by UK REACH SI 2019 No. 758 as amended

15.1.2. Other Information

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

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Full text of H- and EUH-statements:	
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Safety Data Sheet (SDS), UK

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.