

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

1.1. Product identifier

Product form : Article
Product name : Altro Flow 1mm / Altro Flow 2mm / Altro Flow 3mm Hardener
Product code : FLOW_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
Acute toxicity (inhalation:dust,mist) Category 4	H332
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 3	H412

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

Signal word (GB CLP) : Danger

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Contains	: BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine; 1,3-Benzenedimethanamine; Phenol, styrenated; Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane
Hazard statements (GB CLP)	: H302+H332 - Harmful if swallowed or if inhaled. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (GB CLP)	: P260 - Do not breathe fume, vapours. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment.

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	BENZYL ALCOHOL (100-51-6), ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2), 1,3-Benzenedimethanamine (1477-55-0), Phenol, styrenated (61788-44-1), Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)
Substance(s) not meeting the vPvB criteria of UK REACH regulation, in accordance with Annex XIII	BENZYL ALCOHOL (100-51-6), ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2), 1,3-Benzenedimethanamine (1477-55-0), Phenol, styrenated (61788-44-1), Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)

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)
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	BENZYL ALCOHOL(100-51-6), ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine(2855-13-2), Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane(38294-64-3), 1,3-Benzenedimethanamine(1477-55-0)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
BENZYL ALCOHOL	CAS-No.: 100-51-6 EC-No.: 202-859-9 UK Index-No.: 603-057-00-5	≥ 15 – < 50	Acute Tox. 4 (Oral), H302 (ATE=1200 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	≥ 15 – < 50	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
Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane	CAS-No.: 38294-64-3 EC-No.: 500-101-4	≥ 5 – < 30	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
1,3-Benzenedimethanamine	CAS-No.: 1477-55-0 EC-No.: 216-032-5	≥ 3 – < 10	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
Phenol, styrenated substance identified as having endocrine disrupting properties	CAS-No.: 61788-44-1 EC-No.: 262-975-0	< 5	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
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	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
First-aid measures after eye contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Drink plenty of water. Go into open air and ventilate suspected area. If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms/effects	: Treat symptomatically.
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Symptoms/effects after inhalation	: May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system. Serious effects may be delayed following exposure.
Symptoms/effects after skin contact	: Causes severe burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed. May cause burns to mouth, throat and stomach.

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

The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Water spray. Water fog.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Thermal decomposition can lead to the release of irritating gases and vapours.

5.3. Advice for firefighters

Firefighting instructions : Do not use water jet to extinguish. 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.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not allow to enter sewers, surface or groundwater.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Absorb remaining liquid with sand or inert absorbent and remove to safe place. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe vapours. Do not handle until all safety precautions have been read and understood. Keep only in original container.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Store in a well-ventilated place. Keep cool. 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.

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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

BENZYL ALCOHOL (100-51-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	40 mg/kg bw/day
Acute - systemic effects, inhalation	110 mg/m ³
Long-term - local effects, dermal	8 mg/kg bw/day
Long-term - systemic effects, inhalation	22 mg/kg bw/day
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	20 mg/kg bw/day
Acute - systemic effects, inhalation	27
Acute - systemic effects, oral	20 mg/m ³
Long-term - systemic effects, oral	4 mg/kg bw/day
Long-term - systemic effects, inhalation	5.4 mg/m ³
Long-term - systemic effects, dermal	4 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	1 mg/l
PNEC aqua (marine water)	0.1 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	5.27 mg/kg dwt
PNEC sediment (marine water)	0.527 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.456 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	39 mg/l
ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	20.1 mg/m ³
Acute - local effects, inhalation	0.073 mg/m ³
Long-term - local effects, inhalation	0.073 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	0.3 mg/kg bodyweight/day
Long-term - systemic effects, oral	0.3 mg/kg bodyweight/day

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ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
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)	5.784 mg/kg dwt
PNEC sediment (marine water)	0.578 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.121 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	3.18 mg/l

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.

8.2.2. Personal protection equipment

Personal protective equipment:

Gloves. Dustproof clothing. Safety glasses.

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:

Wear 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

No additional information available

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colourless to pale yellow 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

9.2. Other information

Particle characteristics	: Not applicable
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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

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Not relevant.

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)	: Inhalation:dust,mist: Harmful if inhaled.

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Altro Flow 1mm / Altro Flow 2mm / Altro Flow 3mm Hardener	
ATE UK (oral)	1055.179 mg/kg bodyweight
ATE UK (dust, mist)	25.806 mg/l/4h
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)
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
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
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
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))
Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation : Causes severe skin burns.
pH: No specific test data are available.

ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
pH	11.6
Phenol, styrenated (61788-44-1)	
pH	6.85 Temp.: 30 °C Concentration: 1 vol%

Serious eye damage/irritation : Causes serious eye damage.
pH: No specific test data are available.

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ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)	
pH	11.6
Phenol, styrenated (61788-44-1)	
pH	6.85 Temp.: 30 °C Concentration: 1 vol%
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)
Reproductive toxicity	: 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)
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)
BENZYL ALCOHOL (100-51-6)	
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: other:
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)
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)
Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)	
LOAEL (oral, rat, 90 days)	100 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)
NOAEL (oral, rat, 90 days)	10 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)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
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)'

Other information

Endocrine disrupting properties

No additional information available

Other information

No additional information available

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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) : Harmful to aquatic life with long lasting effects.

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'
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'
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
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'
Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)	
LC50 - Fish [1]	1.62 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1.59 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	3.13 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

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Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)

EC50 72h - Algae [2]	2.5 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
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12.2. Persistence and degradability

Altro Flow 1mm / Altro Flow 2mm / Altro Flow 3mm Hardener

Persistence and degradability	Not rapidly degradable
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BENZYL ALCOHOL (100-51-6)

Persistence and degradability	Readily biodegradable.
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ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine (2855-13-2)

Persistence and degradability	Not rapidly degradable
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1,3-Benzenedimethanamine (1477-55-0)

Persistence and degradability	Not rapidly degradable
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Phenol, styrenated (61788-44-1)

Persistence and degradability	Not rapidly degradable
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Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)

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

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
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
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
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
Phenol, 4,4'-(1-methylethylidene)bis-polymer with 5-amino-1,3,3-trimethylcyclohexanemethanamine and (Chloromethyl)oxirane (38294-64-3)	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

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 Waste treatment methods HP Code	: Disposal must be done according to official regulations. : Must follow special treatment according to local regulation. : 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
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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				
POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine)	Polyamines, liquid, corrosive, n.o.s. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine)
Transport document description				
UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine), 8, III, (E)	UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine), 8, III	UN 2735 Polyamines, liquid, corrosive, n.o.s. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine), 8	UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine), 8, III	UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains : BENZYL ALCOHOL; ISOPHORONEDIAMINE / 3-Aminomethyl-3-5,5-trimethylcyclohexylamine), 8, III
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	Not applicable	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

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14.6. Special precautions for user

Overland transport

Classification code (ADR)	: C7
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 5I
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)	: 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
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

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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. 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 no substance(s) listed as a reportable explosive precursor on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

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

15.1.2. Other Information

15.2. Chemical safety assessment

No additional information available

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SECTION 16: Other information

Full text of H- and EUH-statements:	
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 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
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
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
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
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.