

Safety Data Sheet: **AD63 & AD64 Aero Tech (Hardener)**



Used with AD63 & AD64 Aero Tech Resin

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Reference number: EHC: 28611000002269

Issue date: 30/07/2020

Revision date: 12/05/2021

Supersedes 06/08/2020 Supersedes version of: 30/07/2020

Version: 3.0

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

1.1. Product identifier

Product form : Mixture
Product name : Aero Tech (Hardener)
UFI : 5610-90D2-T00E-RHXY
Product code : AD63 & AD64
Type of product : Component of modelling adhesive
Product group : Blend

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

1.2.1. Relevant identified uses

Main use category : Model building
Use of the substance/mixture : Adhesives, binding agents
Function or use category : Adhesives, binding agents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Deluxe Materials Ltd.
Unit 12 & 13, Cufau de Business Park, Cufau de Lane,
Bramley, Hampshire, RG26 5DL United Kingdom
T +44(0) 1256 883944
john@deluxematerials.com

1.4. Emergency telephone number

Emergency number : +44(0) 1256 883944 (office hours only)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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
Specific target organ toxicity — Repeated exposure, Category 2 H373
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

Hazardous ingredients

Hazard statements (CLP)

Precautionary statements (CLP)

- : Danger
- : Benzyl alcohol; 1,4-Bis(aminocyclohexyl)methane; 3-AMINOPROPYLDIMETHYLAMINE; N-(2-Aminoethyl)piperazine; Styrenated phenol
- : H302 - Harmful if swallowed.
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.
H411 - Toxic to aquatic life with long lasting effects.
- : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
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 protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Labelling according to: exemption for packages of a capacity of 125ml or less

Hazard pictograms (CLP)



Signal word (CLP)

Hazardous ingredients

Hazard statements (CLP)

- : Danger
- : Benzyl alcohol; 1,4-Bis(aminocyclohexyl)methane; 3-AMINOPROPYLDIMETHYLAMINE; N-(2-Aminoethyl)piperazine; Styrenated phenol
- : H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.

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Precautionary statements (CLP)

: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
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

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Benzyl alcohol	(CAS-No.) 100-51-6 (EC-No.) 202-859-9 (EC Index-No.) 603-057-00-5	≥ 5 – < 50	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332
1,4-Bis(aminocyclohexyl)methane	(CAS-No.) 1761-71-3 (EC-No.) 217-168-8	≥ 5 – < 50	Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373 Aquatic Chronic 2, H411 (M=0)
Styrenated phenol	(CAS-No.) 61788-44-1 (EC-No.) 262-975-0	≥ 5 – < 25	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-(2-Aminoethyl)piperazine	(CAS-No.) 140-31-8 (EC-No.) 205-411-0 (EC Index-No.) 612-105-00-4	≥ 0.1 – < 25	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
3-AMINOPROPYLDIMETHYLAMINE	(CAS-No.) 109-55-7 (EC-No.) 203-680-9 (EC Index-No.) 612-061-00-6 (REACH-no) 01-21194868942-27	≥ 0.1 – < 15	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Skin Sens. 1, H317

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Siloxanes and Silicones, di-Me, reaction products with silica (Dust) substance with national workplace exposure limit(s) (GB)	(CAS-No.) 67762-90-7	< 5	Not classified
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Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact	: Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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	: Water spray. Dry powder. Foam. Carbon dioxide.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
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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".
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
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- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

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, ventilate curing ovens to prevent emissions in the workplace. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)

United Kingdom - Occupational Exposure Limits

WEL TWA (mg/m ³)	10 mg/m ³ 4 mg/m ³
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8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station, ventilate curing ovens to prevent emissions in the workplace.

Hand protection:

Protective gloves

Eye protection:

Safety glasses with side shields

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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Personal protective equipment symbol(s):



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	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: > 93.33 °C
Flash point	: 91 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

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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 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)

HX628D/NC (Hardener)

ATE CLP (oral)	532.438 mg/kg bodyweight
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Benzyl alcohol (100-51-6)

LD50 oral rat	1620 mg/kg bw/day (Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit, Inconclusive, insufficient data, Dermal)
LC50 inhalation rat (mg/l)	> 8.8 mg/l

1,4-Bis(aminocyclohexyl)methane (1761-71-3)

LD50 oral rat	380 mg/kg (EPA OPP 81-1: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	2110 mg/kg bodyweight (EPA OPP 81-2, 24 h, Rabbit, Male / female, Experimental value, Dermal)

3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

LD50 oral rat	1870 mg/kg
LD50 dermal rat	400 – 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	2396 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LD50 dermal	> 400 mg/kg
LC50 inhalation rat (mg/l)	> 4.31 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

N-(2-Aminoethyl)piperazine (140-31-8)

LD50 oral rat	2097 mg/kg bodyweight (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	866 mg/kg bw/day (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))

Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)

LD50 oral rat	> 5000 mg/kg (Rat, Oral)
LD50 dermal rat	> 2000 mg/kg (Rat, Dermal)

Styrenated phenol (61788-44-1)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

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LC50 inhalation rat (mg/l)	> 4.92 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))
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Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
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)

3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

NOAEL (chronic, oral, animal/male, 2 years)	8 mg/kg bodyweight Animal: mouse, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)
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Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
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3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

NOAEL (animal/male, F0/P)	50 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
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STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
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STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
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Benzyl alcohol (100-51-6)

NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: other:OECD Guideline 451 (Carcinogenicity Studies)
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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 in Rodents)
LOAEC (inhalation, rat, vapour, 90 days)	0.323 mg/l air Animal: rat
NOAEL (oral, rat, 90 days)	50 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	0.144 mg/l air Animal: rat

Styrenated phenol (61788-44-1)

NOAEL (dermal, rat/rabbit, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
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Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Toxic to aquatic life with long lasting effects.
Ecology - water	: Toxic to aquatic life with long lasting effects.
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.
Not rapidly degradable	

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Benzyl alcohol (100-51-6)

LC50 fish 1	460 mg/l (EPA OPP 72-1, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 Daphnia 1	230 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Fresh water, Experimental value, GLP)
EC50 72h algae (1)	770 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h algae (2)	500 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 (algae)	770 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC (chronic)	51 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

1,4-Bis(aminocyclohexyl)methane (1761-71-3)

LC50 fish 1	68 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)
LC50 fish 2	68 mg/l Test organisms (species): Leuciscus idus
EC50 Daphnia 1	6.84 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 2	6.84 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	140 – 200 mg/l Test organisms (species):
EC50 72h algae (2)	141.42 – 200 mg/l Test organisms (species):
ErC50 (algae)	140 – 200 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC (chronic)	4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 1 mg/l Test organisms (species): other: freshwater fish

3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

LC50 fish 1	122 mg/l
EC50 Daphnia 1	59.46 mg/l Test organisms (species): Daphnia magna
EC50 other aquatic organisms 1	59.46 mg/l
EC50 72h algae (1)	34 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h algae (2)	30 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

N-(2-Aminoethyl)piperazine (140-31-8)

LC50 fish 1	2190 mg/l (96 h, Pimephales promelas, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	58 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Experimental value, GLP)
EC50 72h algae (1)	> 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 (algae)	> 1000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Fresh water, Experimental value, GLP)

Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)

LC50 fish 1	> 10000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Literature)
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EC50 Daphnia 1	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 24 h, Daphnia magna, Literature)
ErC50 (algae)	> 10000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Scenedesmus subspicatus, Literature)

Styrenated phenol (61788-44-1)

EC50 Daphnia 1	> 0.249 mg/l (48 h, Daphnia sp., Literature study)
EC50 72h algae (1)	0.326 mg/l (Algae, Literature study)
NOEC (chronic)	0.115 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	1.9 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'

12.2. Persistence and degradability

Benzyl alcohol (100-51-6)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.6 g O ₂ /g substance
Chemical oxygen demand (COD)	2.4 g O ₂ /g substance
ThOD	2.5 g O ₂ /g substance

1,4-Bis(aminocyclohexyl)methane (1761-71-3)

Persistence and degradability	Not readily biodegradable in water.
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3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

Persistence and degradability	Readily biodegradable in water.
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N-(2-Aminoethyl)piperazine (140-31-8)

Persistence and degradability	Not readily biodegradable in water.
Chemical oxygen demand (COD)	0.56 g O ₂ /g substance

Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)

Persistence and degradability	Biodegradability in soil: no data available.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Styrenated phenol (61788-44-1)

Persistence and degradability	Biodegradability in soil: no data available. Not readily biodegradable in water.
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12.3. Bioaccumulative potential

Benzyl alcohol (100-51-6)

Partition coefficient n-octanol/water (Log Pow)	1 – 1.1 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

1,4-Bis(aminocyclohexyl)methane (1761-71-3)

BCF fish 1	< 60 (OECD 305: Bioconcentration: Flow-Through Fish Test, 60 day(s), Cyprinus carpio, Flow-through system, Fresh water, Read-across, GLP)
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Partition coefficient n-octanol/water (Log Pow)	2.03 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

Partition coefficient n-octanol/water (Log Pow)	-0.352 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

N-(2-Aminoethyl)piperazine (140-31-8)

BCF fish 1	0.3 – 6.3 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Flow-through system, Fresh water, Read-across)
Partition coefficient n-octanol/water (Log Pow)	-1.48 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)

Bioaccumulative potential	No bioaccumulation data available.
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Styrenated phenol (61788-44-1)

Partition coefficient n-octanol/water (Log Pow)	6.24 – 7.77 (Experimental value, OECD 123: Partition Coefficient (1-Octanol/Water): Slow-Stirring Method)
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).

12.4. Mobility in soil

Benzyl alcohol (100-51-6)

Surface tension	39 mN/m (20 °C)
Ecology - soil	No (test)data on mobility of the substance available.

1,4-Bis(aminocyclohexyl)methane (1761-71-3)

Partition coefficient n-octanol/water (Log Koc)	3.25 (log Koc, Other, Calculated value)
Ecology - soil	Low potential for mobility in soil.

3-AMINOPROPYLDIMETHYLAMINE (109-55-7)

Partition coefficient n-octanol/water (Log Koc)	1.866 (log Koc, Calculated value)
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N-(2-Aminoethyl)piperazine (140-31-8)

Partition coefficient n-octanol/water (Log Koc)	4.57 (log Koc, Read-across, GLP)
Ecology - soil	Low potential for mobility in soil.

Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)

Ecology - soil	No (test)data on mobility of the substance available.
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Styrenated phenol (61788-44-1)

Ecology - soil	No (test)data on mobility of the substance available.
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12.5. Results of PBT and vPvB assessment

Component

Benzyl alcohol (100-51-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
1,4-Bis(aminocyclohexyl)methane (1761-71-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
N-(2-Aminoethyl)piperazine (140-31-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Siloxanes and Silicones, di-Me, reaction products with silica (Dust) (67762-90-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. 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.
Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2815	UN 2815	UN 2815	UN 2815	UN 2815
14.2. UN proper shipping name				
N-AMINOETHYLPIPERAZINE	N-AMINOETHYLPIPERAZINE	n-Aminoethylpiperazine	N-AMINOETHYLPIPERAZINE	N-AMINOETHYLPIPERAZINE
E	E		E	E
Transport document description				
UN 2815 N-AMINOETHYLPIPERAZINE, 8 (6.1), III, (E), ENVIRONMENTALLY HAZARDOUS	UN 2815 N-AMINOETHYLPIPERAZINE, 8 (6.1), III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2815 n-Aminoethylpiperazine, 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS	UN 2815 N-AMINOETHYLPIPERAZINE, 8, III, ENVIRONMENTALLY HAZARDOUS	UN 2815 N-AMINOETHYLPIPERAZINE, 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
8 (6.1)	8 (6.1)	8 (6.1)	8	8 (6.1)
14.4. Packing group				
III	III	III	III	III

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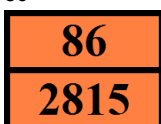
14.5. Environmental hazards

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)	: CT1
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)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
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.)	: 86
Orange plates	:



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

Transport by sea

Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW1, SW2, H2
Segregation (IMDG)	: SG35
Properties and observations (IMDG)	: Yellow liquid. Miscible with water. Corrosive to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

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)	: A803
ERG code (IATA)	: 8P

Inland waterway transport

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

Rail transport

Classification code (RID)	: CT1
Limited quantities (RID)	: 5L

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Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1
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)	: 86

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. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

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
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose

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LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), 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
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
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
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic 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.
H332	Harmful if inhaled.
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.

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H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS EU (REACH Annex II) - EU date format

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.