



SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

ATLAS EPO-S komponent B

Creation date 17th November 2021
Revision date Version 2.0

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

- 1.1. Product identifier**
Substance / mixture ATLAS EPO-S komponent B mixture
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
Mixture's intended use
Two-component epoxy primer.
- Mixture uses advised against**
The product should not be used in ways other than those referred in Section 1.
- Main intended use**
PC-CON-5 Construction chemicals
- 1.3. Details of the supplier of the safety data sheet**
Supplier
Name or trade name ATLAS sp. z o.o.
Address ul. Jana Kilińskiego 2, Łódź, 91-421
Poland
VAT Reg No PL9471936467
Phone +48 42 631 89 45
E-mail msds@atlas.com.pl
Web address www.atlas.com.pl
- Competent person responsible for the safety data sheet**
Name ATLAS sp. z o.o.
E-mail msds@atlas.com.pl
- 1.4. Emergency telephone number**
National Health Service (NHS) 111
National poisoning information centre Scotland, NHS 24: 111

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Acute Tox. 4, H302+H332
Skin Corr. 1B, H314
Skin Sens. 1, H317
STOT RE 2, H373
Aquatic Chronic 3, H412

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse effects on human health and the environment

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

- 2.2. Label elements**
Hazard pictogram



Signal word
Danger



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Hazardous substances

benzyl alcohol
formaldehyde, polymer with aniline, hydrogenated
N,N'-bis(3-aminopropyl)ethylenediamine
2,4,6-tris(dimethylaminomethyl)phenol
4,4'-methylenebis(cyclohexylamine)
N-(2-aminoethyl)-1,3-propanediamine

Hazard statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.
H302+H332 Harmful if swallowed or if inhaled.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P261 Avoid breathing mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container to according to the instructions of the manufacturer or person authorized to dispose of waste.

Requirements for child-resistant fastenings and tactile warning of danger

Container must carry a tactile warning of danger. Container must be fitted with child-resistant fastening.

2.3. Other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of substances and additives specified below.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 603-057-00-5 CAS: 100-51-6 EC: 202-859-9 Registration number: 01-2119492630-38	benzyl alcohol	25-50	Acute Tox. 4, H302+H332 Eye Irrit. 2, H319	
CAS: 135108-88-2 EC: 603-894-6 Registration number: 01-2119983522-33	formaldehyde, polymer with aniline, hydrogenated	25-50	Acute Tox. 3, H301 Skin Corr. 1C, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 STOT RE 2, H373 (kidneys) (ingestion) Aquatic Chronic 3, H412	1



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Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 10563-26-5 EC: 234-147-9 Registration number: 01-2119976331-37	N,N'-bis(3-aminopropyl)ethylenediamine	5-10	Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314 Skin Sens. 1A, H317 Eye Dam. 1, H318	
Index: 603-069-00-0 CAS: 90-72-2 EC: 202-013-9 Registration number: 01-2119560597-27	2,4,6-tris(dimethylaminomethyl)phenol	5-10	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318	
CAS: 1761-71-3 EC: 217-168-8 Registration number: 01-2119541673-38	4,4'-methylenebis(cyclohexylamine)	3-5	Acute Tox. 4, H302 Skin Corr. 1B, H314 Skin Sens. 1B, H317 Eye Dam. 1, H318 STOT RE 2, H373	
CAS: 13531-52-7 EC: 236-882-0 Registration number: 01-2120097861-45	N-(2-aminoethyl)-1,3-propanediamine	0,1-1,0	Acute Tox. 4, H302 Acute Tox. 2, H310 Skin Corr. 1A, H314 Skin Sens. 1A, H317 Eye Dam. 1, H318	

Notes

1 Substance of unknown or variable composition, complex reaction products or biological materials - UVCB.

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Rinse skin with water or shower. Rinse cautiously with water for several minutes.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs. The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT PROVIDE ACTIVATED CARBON! Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.



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

If inhaled

Inhaling vapours can cause corrosion of the breathing system. Cough, headache.

If on skin

Causes severe skin burns. May cause an allergic skin reaction.

If in eyes

Causes serious eye damage.

If swallowed

Corrosion of the digestion system can occur.

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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale aerosols. Prevent contact with skin and eyes. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Store locked up. Keep container tightly closed.

7.3. Specific end use(s)

not available



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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

DNEL

2,4,6-tris(dimethylaminomethyl)phenol

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	0.53 mg/m ³	Systemic chronic effects	
Workers	Inhalation	2.1 mg/m ³	Systemic acute effects	
Workers	Dermal	0.15 mg/kg bw/day	Systemic chronic effects	
Workers	Dermal	0.6 mg/kg bw/day	Systemic acute effects	
Consumers	Inhalation	0.13 mg/m ³	Systemic chronic effects	
Consumers	Inhalation	0.13 mg/m ³	Systemic acute effects	
Consumers	Dermal	0.075 mg/kg bw/day	Systemic chronic effects	
Consumers	Dermal	0.075 mg/kg bw/day	Systemic acute effects	
Consumers	Oral	0.075 mg/kg bw/day	Systemic chronic effects	

4,4'-methylenebis(cyclohexylamine)

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	0.9 mg/m ³	Systemic chronic effects	
Workers	Dermal	0.25 mg/kg bw/day	Systemic chronic effects	

benzyl alcohol

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	22 mg/m ³	Systemic chronic effects	
Workers	Inhalation	110 mg/m ³	Systemic acute effects	
Workers	Dermal	8 mg/kg bw/day	Systemic chronic effects	
Workers	Dermal	40 mg/kg bw/day	Systemic acute effects	
Consumers	Inhalation	5.4 mg/m ³	Systemic chronic effects	
Consumers	Inhalation	27 mg/m ³	Systemic acute effects	
Consumers	Dermal	4 mg/kg bw/day	Systemic chronic effects	
Consumers	Dermal	20 mg/kg bw/day	Systemic acute effects	
Consumers	Oral	4 mg/kg bw/day	Systemic chronic effects	
Consumers	Oral	20 mg/kg bw/day	Systemic acute effects	

formaldehyde, polymer with aniline, hydrogenated

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	0.2 mg/m ³	Systemic chronic effects	
Workers	Inhalation	2 mg/m ³	Systemic acute effects	
Workers	Dermal	2 mg/kg bw/day	Systemic chronic effects	
Workers	Dermal	6 mg/kg bw/day	Systemic acute effects	



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N-(2-aminoethyl)-1,3-propanediamine

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	0.62 mg/m ³	Systemic chronic effects	
Workers	Dermal	0.18 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	0.094 mg/m ³	Systemic chronic effects	
Consumers	Dermal	0.063 mg/kg bw/day	Systemic chronic effects	
Consumers	Oral	0.063 mg/kg bw/day	Systemic chronic effects	

N,N'-bis(3-aminopropyl)ethylenediamine

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	1.234 mg/m ³	Systemic chronic effects	
Workers	Dermal	0.35 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	0.217 mg/m ³	Systemic chronic effects	
Consumers	Dermal	0.125 mg/kg bw/day	Systemic chronic effects	
Consumers	Oral	0.125 mg/kg bw/day	Systemic chronic effects	

PNEC

2,4,6-tris(dimethylaminomethyl)phenol

Route of exposure	Value	Determining method
Drinking water	0.046 mg/l	
Seawater	0.005 mg/l	
Water (intermittent release)	0.46 mg/l	
Microorganisms in wastewater treatment plants	0.2 mg/l	
Freshwater sediment	0.262 mg/kg of dry substance of sediment	
Sea sediments	0.026 mg/kg of dry substance of sediment	
Soil (agricultural)	0.025 mg/kg of dry substance of soil	

4,4'-methylenebis(cyclohexylamine)

Route of exposure	Value	Determining method
Drinking water	0.08 mg/l	
Water (intermittent release)	0.08 mg/l	
Seawater	0.008 mg/l	
Microorganisms in wastewater treatment plants	3.2 mg/l	
Freshwater sediment	14.6 mg/kg of dry substance of sediment	
Sea sediments	1.46 mg/kg of dry substance of sediment	
Soil (agricultural)	4.56 mg/kg of dry substance of soil	
Food chain	0.556 mg/kg of food	



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benzyl alcohol

Route of exposure	Value	Determining method
Drinking water	1 mg/l	
Seawater	0.1 mg/l	
Water (intermittent release)	2.3 mg/l	
Microorganisms in wastewater treatment plants	39 mg/l	
Freshwater sediment	5.27 mg/kg of dry substance of sediment	
Sea sediments	0.527 mg/kg of dry substance of sediment	
Soil (agricultural)	0.456 mg/kg of dry substance of soil	

formaldehyde, polymer with aniline, hydrogenated

Route of exposure	Value	Determining method
Drinking water	0.015 mg/l	
Water (intermittent release)	0.15 mg/l	
Seawater	0.002 mg/l	
Microorganisms in wastewater treatment plants	1.9 mg/l	
Freshwater sediment	15 mg/kg of dry substance of sediment	
Sea sediments	1.5 mg/kg of dry substance of sediment	
Soil (agricultural)	1.8 mg/kg of dry substance of soil	

N-(2-aminoethyl)-1,3-propanediamine

Route of exposure	Value	Determining method
Drinking water	0.144 mg/l	
Water (intermittent release)	0.259 mg/l	
Seawater	0.014 mg/l	
Microorganisms in wastewater treatment plants	80 mg/l	
Freshwater sediment	0.648 mg/kg of dry substance of sediment	
Sea sediments	0.065 mg/kg of dry substance of sediment	
Soil (agricultural)	0.045 mg/kg of dry substance of soil	

N,N'-bis(3-aminopropyl)ethylenediamine

Route of exposure	Value	Determining method
Drinking water	0.144 mg/l	
Water (intermittent release)	0.43 mg/l	
Seawater	0.014 mg/l	
Microorganisms in wastewater treatment plants	3.4 mg/l	
Freshwater sediment	45.3 mg/kg of dry substance of sediment	
Sea sediments	4.53 mg/kg of dry substance of sediment	
Soil (agricultural)	8.96 mg/kg of dry substance of soil	



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8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: protective workwear. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

Thermal hazard

Data not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	brown, yellow
Odour	characteristic
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	>100 °C
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	11 (undiluted)
Kinematic viscosity	data not available
Solubility in water	partially soluble
Solubility in other solvents	dissolves in most organic solvents
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	
Density	1 g/cm ³
Relative vapour density	data not available
Particle characteristics	data not available
Form	

9.2. Other information

Explosive properties	The product does not have explosive properties.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with peroxides, aldehydes, ketones, epoxy resins.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.



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10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Reactive metals (e.g. sodium, calcium, zinc, etc.). Substances which react with hydroxyl compounds. Carefully! N-Nitrosamines, many of which are considered to be potentially carcinogenic, may form when the product comes into contact with nitric acid, nitrites or atmospheres with high concentrations of nitrous oxide. Nitric acid (III) and other nitrosating agents. Organic acids (e.g. acetic acid, citric acid, etc.). Inorganic acids. Sodium hypochlorite. The product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides can rapidly decompose the peroxide and create an explosion hazard. Oxidizing factors.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

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

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the mixture.

Acute toxicity

Harmful if swallowed or if inhaled.

2,4,6-tris(dimethylaminomethyl)phenol

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Dermal	LD ₅₀		>1 ml/kg	6 hour	Rat (Rattus norvegicus)	M
Oral	LD ₅₀	OECD 401	2169 mg/kg bw		Rat (Rattus norvegicus)	F/M

4,4'-methylenebis(cyclohexylamine)

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD ₅₀		>670 mg/kg bw		Rat (Rattus norvegicus)	
Dermal	LD ₅₀	EPA OPP 81-2	2110 mg/kg bw		Rabbit	F/M

benzyl alcohol

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD ₅₀		1620 mg/kg bw		Rat (Rattus norvegicus)	M
Inhalation	LD ₅₀	OECD 403	>4.178 mg/l	4 hour	Rat (Rattus norvegicus)	F/M
Dermal	LD ₅₀	EPA OTS 798.1100	>2000 mg/kg bw/day	24 hour	Rabbit	F/M

formaldehyde, polymer with aniline, hydrogenated

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD ₅₀	OECD 423	300 mg/kg bw		Rat (Rattus norvegicus)	F/M

N-(2-aminoethyl)-1,3-propanediamine

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD ₅₀	OECD 401	654 mg/kg bw		Rat (Rattus norvegicus)	F/M
Dermal	LD ₅₀	OECD 402	184 mg/kg bw		Rabbit	F/M



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N,N'-bis(3-aminopropyl)ethylenediamine

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD ₅₀	OECD 401	1140 mg/kg bw		Rat (<i>Rattus norvegicus</i>)	F/M
Dermal	LD ₅₀	OECD 402	>200 mg/kg bw	24 hour	Rabbit	F/M

Skin corrosion/irritation

Causes severe skin burns and eye damage.

2,4,6-tris(dimethylaminomethyl)phenol

Route of exposure	Result	Method	Time of exposure	Species
Dermal	Corrosive	OECD 435		

4,4'-methylenebis(cyclohexylamine)

Route of exposure	Result	Method	Time of exposure	Species
Dermal	Corrosive	OECD 404	165 min	Rabbit

benzyl alcohol

Route of exposure	Result	Method	Time of exposure	Species
Dermal	Slightly irritating	OECD 404	4 hour	Rabbit

formaldehyde, polymer with aniline, hydrogenated

Route of exposure	Result	Method	Time of exposure	Species
Dermal	Corrosive	OECD 435		

N-(2-aminoethyl)-1,3-propanediamine

Route of exposure	Result	Method	Time of exposure	Species
Dermal	Corrosive	OECD 404	20 hour	Rabbit

N,N'-bis(3-aminopropyl)ethylenediamine

Route of exposure	Result	Method	Time of exposure	Species
Dermal	Corrosive	OECD 404		Rabbit

Serious eye damage/irritation

Causes severe skin burns and eye damage.

2,4,6-tris(dimethylaminomethyl)phenol

Route of exposure	Result	Method	Time of exposure	Species
Eye	Corrosive			

4,4'-methylenebis(cyclohexylamine)

Route of exposure	Result	Method	Time of exposure	Species
Eye	Corrosive, Serious eye damage	OECD 405	24 hour	Rabbit

benzyl alcohol

Route of exposure	Result	Method	Time of exposure	Species
Eye	Irritating	OECD 405	24 hour	Rabbit



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N-(2-aminoethyl)-1,3-propanediamine

Route of exposure	Result	Method	Time of exposure	Species
Eye	Corrosive, Serious eye damage	OECD 405	8 day	Rabbit

N,N'-bis(3-aminopropyl)ethylenediamine

Route of exposure	Result	Method	Time of exposure	Species
Eye	Corrosive	OECD 405		Rabbit

Respiratory or skin sensitisation

May cause an allergic skin reaction.

4,4'-methylenebis(cyclohexylamine)

Route of exposure	Result	Method	Time of exposure	Species	Sex
Dermal	Sensitizing			Guinea-pig (Cavia aperea f. porcellus)	M

formaldehyde, polymer with aniline, hydrogenated

Route of exposure	Result	Method	Time of exposure	Species	Sex
Dermal	Sensitizing	OECD 406			

N-(2-aminoethyl)-1,3-propanediamine

Route of exposure	Result	Method	Time of exposure	Species	Sex
Dermal	Sensitizing	OECD 406		Guinea-pig (Cavia aperea f. porcellus)	F

N,N'-bis(3-aminopropyl)ethylenediamine

Route of exposure	Result	Method	Time of exposure	Species	Sex
Dermal	Sensitizing	OECD 406		Guinea-pig (Cavia aperea f. porcellus)	F

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

May cause damage to organs through prolonged or repeated exposure.



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Repeated dose toxicity

2,4,6-tris(dimethylaminomethyl)phenol

Route of exposure	Parameter	Result	Method	Value	Time of exposure	Species	Sex
Oral	NOAEL	Systemic effects	OECD 422	15 mg/kg bw/day	54 day	Rat (Rattus norvegicus)	F/M

4,4'-methylenebis(cyclohexylamine)

Route of exposure	Parameter	Result	Method	Value	Time of exposure	Species	Sex
Oral	NOAEL	Systemic effects	OECD 422	15 mg/kg bw/day	28 day	Rat (Rattus norvegicus)	F/M
Inhalation	NOAEC	Systemic effects	OECD 413	12 mg/m ³	3 month	Rat (Rattus norvegicus)	F/M

benzyl alcohol

Route of exposure	Parameter	Result	Method	Value	Time of exposure	Species	Sex
Oral	NOAEL		OECD 451	400 mg/kg bw/day	103 week	Rat (Rattus norvegicus)	F/M
Inhalation (aerosols)	NOAEC	Local effects, Systemic effects	OECD 412	1072 mg/m ³ of air	4 week	Rat (Rattus norvegicus)	F/M

formaldehyde, polymer with aniline, hydrogenated

Route of exposure	Parameter	Result	Method	Value	Time of exposure	Species	Sex
Oral	NOAEL		OECD 407	15 mg/kg bw/day	28 day	Rat (Rattus norvegicus)	F/M

N-(2-aminoethyl)-1,3-propanediamine

Route of exposure	Parameter	Result	Method	Value	Time of exposure	Species	Sex
Oral	NOAEL		OECD 422	30 mg/kg bw/day	29 day	Rat (Rattus norvegicus)	M

N,N'-bis(3-aminopropyl)ethylenediamine

Route of exposure	Parameter	Result	Method	Value	Time of exposure	Species	Sex
Oral	NOAEL	Systemic effects	OECD 422	30 mg/kg bw/day	53 day	Rat (Rattus norvegicus)	F

Aspiration hazard

Based on available data the classification criteria are not met.

11.2. Information on other hazards

not available

SECTION 12: Ecological information

12.1. Toxicity



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Acute toxicity

Harmful to aquatic life with long lasting effects.

2,4,6-tris(dimethylaminomethyl)phenol

Parameter	Method	Value	Time of exposure	Species	Environment
LC ₅₀		175 mg/l	96 hour	Fishes (Cyprinus carpio)	
EC ₅₀		718 mg/l	96 hour	Aquatic invertebrates (Daphnia magna)	
ErC ₅₀	OECD 201	46.7 mg/l	72 hour	Algae (Pseudokirchneriella subcapitata)	Freshwater
NOEC	OECD 201	25.1 mg/l	72 hour	Algae (Pseudokirchneriella subcapitata)	Freshwater
NOEC		2 mg/l	28 hour	Aquatic microorganisms	Activated sludge

4,4'-methylenebis(cyclohexylamine)

Parameter	Method	Value	Time of exposure	Species	Environment
LC ₅₀		67.8 mg/l	96 hour	Fishes (Leuciscus idus)	
EC ₅₀	OECD 202	6.84 mg/l	48 hour	Aquatic invertebrates (Daphnia magna)	
ErC ₅₀		140 mg/l	72 hour	Algae (Scenedesmus subspicatus)	

benzyl alcohol

Parameter	Method	Value	Time of exposure	Species	Environment
LC ₅₀	EPA OPP 72-1	460 mg/l	96 hour	Fishes (Pimephales promelas)	Freshwater
EC ₅₀	OECD 202	230 mg/l	48 hour	Aquatic invertebrates (Daphnia magna)	Freshwater
EC ₅₀	OECD 201	770 mg/l	72 hour	Algae (Pseudokirchneriella subcapitata)	Freshwater
NOEC	OECD 201	310 mg/l	72 hour	Algae (Pseudokirchneriella subcapitata)	Freshwater
IC ₅₀		390 mg/l	24 hour	Aquatic microorganisms (Nitrosomonas)	

formaldehyde, polymer with aniline, hydrogenated

Parameter	Method	Value	Time of exposure	Species	Environment
LC ₅₀	OECD 203	63 mg/l	96 hour	Fishes (Poecilia reticulata)	
ErC ₅₀		43.9 mg/l	72 hour	Algae (Desmodesmus subspicatus)	
EC ₅₀	OECD 202	15.4 mg/l	48 hour	Aquatic invertebrates (Daphnia magna)	
NOEC		1.2 mg/l	72 hour	Algae (Desmodesmus subspicatus)	



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formaldehyde, polymer with aniline, hydrogenated

Parameter	Method	Value	Time of exposure	Species	Environment
EC ₅₀		187 mg/l	3 hour	Aquatic microorganisms	

N-(2-aminoethyl)-1,3-propanediamine

Parameter	Method	Value	Time of exposure	Species	Environment
LC ₅₀		>220 mg/l	96 hour	Fishes (Leuciscus idus)	
EC ₅₀		25.93 mg/l	48 hour	Aquatic invertebrates (Daphnia magna)	
EC ₅₀	OECD 201	>460.2 mg/l	72 hour	Algae (Desmodesmus subspicatus)	
EC ₅₀		66 mg/l	17 hour	Aquatic microorganisms (Pseudomonas putida)	

N,N'-bis(3-aminopropyl)ethylenediamine

Parameter	Method	Value	Time of exposure	Species	Environment
LC ₅₀		>200 mg/l	96 hour	Fishes (Leuciscus idus)	
EC ₅₀	EU C.2 (84/449/EEC)	42.54 mg/l	48 hour	Aquatic invertebrates (Daphnia magna)	
NOEC	OECD 201	50 mg/l	72 hour	Algae (Desmodesmus subspicatus)	
EC ₅₀	OECD 209	720 mg/l	3 hour	Aquatic microorganisms	Activated sludge
NOEC	OECD 209	34 mg/l	3 hour	Aquatic microorganisms	Activated sludge

Chronic toxicity

4,4'-methylenebis(cyclohexylamine)

Parameter	Method	Value	Time of exposure	Species	Environment
NOEC	OECD 211	4 mg/l	21 day	Aquatic invertebrates (Daphnia magna)	
LC ₅₀	OECD 222	699 mg/kg of dry substance of soil	56 day	Invertebrates (Eisenia fetida)	
NOEC	OECD 216	62.5 mg/kg of dry substance of soil	28 day	Microorganisms	

benzyl alcohol

Parameter	Method	Value	Time of exposure	Species	Environment
NOEC	OECD 211	51 mg/l	21 day	Aquatic invertebrates (Daphnia magna)	Freshwater

N-(2-aminoethyl)-1,3-propanediamine

Parameter	Method	Value	Time of exposure	Species	Environment
NOEC	OECD 211	7.2 mg/l	21 day	Aquatic invertebrates (Daphnia magna)	



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N,N'-bis(3-aminopropyl)ethylenediamine

Parameter	Method	Value	Time of exposure	Species	Environment
NOEC	OECD 211	7.2 mg/l	21 day	Aquatic invertebrates (Daphnia magna)	

12.2. Persistence and degradability

Biodegradability

2,4,6-tris(dimethylaminomethyl)phenol

Parameter	Method	Value	Time of exposure	Environment	Result
	OECD 301D	4 %	28 day	Activated sludge	Not biodegradable

4,4'-methylenebis(cyclohexylamine)

Parameter	Method	Value	Time of exposure	Environment	Result
					Hardly biodegradable

benzyl alcohol

Parameter	Method	Value	Time of exposure	Environment	Result
	OECD 301A	95-97 %	21 day		Easily biodegradable

formaldehyde, polymer with aniline, hydrogenated

Parameter	Method	Value	Time of exposure	Environment	Result
					Not biodegradable

N-(2-aminoethyl)-1,3-propanediamine

Parameter	Method	Value	Time of exposure	Environment	Result
					Biodegradable

N,N'-bis(3-aminopropyl)ethylenediamine

Parameter	Method	Value	Time of exposure	Environment	Result
					Easily biodegradable

not available

12.3. Bioaccumulative potential

2,4,6-tris(dimethylaminomethyl)phenol

Parameter	Method	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow		-0.66				21,5°C

4,4'-methylenebis(cyclohexylamine)

Parameter	Method	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow	OECD 107	2.03				25°C



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benzyl alcohol

Parameter	Method	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow		1.05				20°C

formaldehyde, polymer with aniline, hydrogenated

Parameter	Method	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow		2.68				21°C

N-(2-aminoethyl)-1,3-propanediamine

Parameter	Method	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow	OECD 107	-1.67				23°C

N,N'-bis(3-aminopropyl)ethylenediamine

Parameter	Method	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
	OECD 107	-1.55				23°C

Data not available.

12.4. Mobility in soil

benzyl alcohol

Parameter	Value	Environment	Surrounding temperature
Koc	15.7		20°C

formaldehyde, polymer with aniline, hydrogenated

Parameter	Value	Environment	Surrounding temperature
Koc	9988		20°C

N,N'-bis(3-aminopropyl)ethylenediamine

Parameter	Value	Environment	Surrounding temperature
Koc	3090		20°C

Data not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

not available

12.7. Other adverse effects

Data not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Danger of environmental contamination, follow the applicable regulations on waste disposal. Store unused product and contaminated packaging in closed containers for waste collection and hand over for disposal to a specialized company authorized to conduct such activity. Do not pour unused product into drains. Must not be disposed of together with municipal waste. Empty packaging can be used for energy purposes in a waste incineration plant or collected in a landfill with an appropriate classification. Perfectly cleaned packaging can be recycled. The classification of waste may change depending on where it is generated.



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Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended.
Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

16 03 05 organic wastes containing hazardous substances *

Packaging waste type code

15 01 10 packaging containing residues of or contaminated by hazardous substances *

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number or ID number

UN 2735

14.2. UN proper shipping name

AMINES, LIQUID, CORROSIVE, N.O.S. (contains: formaldehyde, polymer with aniline, hydrogenated)

14.3. Transport hazard class(es)

8 Corrosive substances

14.4. Packing group

II - substances presenting medium danger

14.5. Environmental hazards

No.

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

Hazard identification No.

80

UN number

2735

Classification code

C7

Safety signs

8



Road transport - ADR

Special provisions

274

Limited quantities

1 L

Excepted quantities

E2

Packaging

Packing instructions

P001, IBC02

Mixed packing provisions

MP15

Portable tanks and bulk containers

Guidelines

T11

Special provisions

TP1, TP27

ADR tank

Tank code

L4BN

Vehicles for tank carriage

AT

Transport category

2

Tunnel restriction code

(E)



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Railway transport - RID

Special provisions	274
Excepted quantities	E2

Packaging

Packing instructions	P001, IBC02
Mixed packing provisions	MP15

Portable tanks and bulk containers

Guidelines	T11
Special provisions	TP1, TP27

RID Tanks

Tank code	L4BN
Transport category	0

Air transport - ICAO/IATA

Packaging instructions for limited amount	Y840
Packaging instructions passenger	851
Cargo packaging instructions	855

Marine transport - IMDG

EmS (emergency plan)	F-A, S-B
MFAG	320

SECTION 15: Regulatory information

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

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 as amended. Environmental Protection Act 1990 as amended. Clean Air Act 1993 as amended. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

15.2. Chemical safety assessment

not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373	May cause damage to the kidneys through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
H302+H332	Harmful if swallowed or if inhaled.

Guidelines for safe handling used in the safety data sheet

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P261	Avoid breathing mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.



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P310	Immediately call a POISON CENTER/doctor.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.
P501	Dispose of contents/container to according to the instructions of the manufacturer or person authorized to dispose of waste.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC ₅₀	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC ₅₀	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD ₅₀	Lethal dose of a substance in which it can be expected death of 50% of the population
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Acute Tox.	Acute toxicity
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Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Skin Corr.	Skin corrosion
Skin Sens.	Skin sensitization
STOT RE	Specific target organ toxicity - repeated exposure

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

This safety data sheet replaces version 1.0 of August 31, 2020.

Section update: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.