SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : SD 4773
Product code : 1813.
Hardener for epoxy resin
UFI : W4R5-D07Y-D009-RC5E

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

Recommended use : Hardener
Uses advised against : data not available

1.3. Details of the supplier of the safety data sheet

Registered company name : Suter Kunststoffe AG
Address : Aefligenstrasse 3, 3312 Fraubrunnen. Switzerland
Telephone : +41 (0)31 763 60 60 Fax : +41 (0)31 763 60 61
e-mail: info@swiss-composite.ch
Website: http://www.swiss-composite.ch

1.4. Emergency telephone number : .

Tox Info Suisse - Emergency number: 145 (from abroad: + 41 44 251 51 51)

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Skin corrosion, Category 1B (Skin Corr. 1B, H314).
Serious eye damage, Category 1 (Eye Dam. 1, H318).
Skin sensitisation, Category 1 (Skin Sens. 1, H317).
Hazardous to the aquatic environment - Chronic hazard, Category 1 (Aquatic Chronic 1, H410).
This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :

GHS05 GHS07 GHS09

Signal Word :
DANGER
Product identifiers :

EC 618-561-0	REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA
EC 268-626-9	POLYETHYLENEPOLYAMINES
EC 223-775-9	3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE
EC 200-712-3	SALICYLIC ACID

Hazard statements :

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements - Prevention :

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/ ...

Precautionary statements - Response :

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/...

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table
The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
CAS: 9046-10-0 EC: 618-561-0 REACH: 01-2119557899-12-XXXX REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA	GHS05 Dgr Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412		25 <= x % < 50
CAS: 68131-73-7 EC: 268-626-9 REACH: 01-2119485823-28-XXXX POLYETHYLENEPOLYAMINES	GHS07, GHS05, GHS09 Dgr Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		10 <= x % < 25
CAS: 13897-55-7 EC: 237-666-9 REACH: 01-2119977080-39-XXXX 4-METHYLCYCLOHEXANE-1,3-DIAMINE	GHS07, GHS05 Dgr Acute Tox. 4, H302 Skin Corr. 1B, H314		10 <= x % < 25
CAS: 4067-16-7 EC: 223-775-9 REACH: 01-219485826-22-XXXX 3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE	GHS07, GHS05, GHS09 Dgr Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		2.5 <= x % < 10
CAS: 13897-56-8 EC: 237-667-4 REACH: 01-2119977080-39-XXXX	GHS07, GHS05 Dgr Acute Tox. 4, H302 Skin Corr. 1B, H314		2.5 <= x % < 10

2-METHYLCYCLOHEXANE-1,3-DIAMINE			
CAS: 100-51-6 EC: 202-859-9 REACH: 01-2119492630-38-XXXX BENZYL ALCOHOL	GHS07 Wng Acute Tox. 4, H302 Eye Irrit. 2, H319 Acute Tox. 4, H332	[1]	2.5 <= x % < 10
CAS: 69-72-7 EC: 200-712-3 REACH: 01-2119486984-17-XXXX SALICYLIC ACID	GHS07, GHS05, GHS08 Dgr Acute Tox. 4, H302 Eye Dam. 1, H318 Repr. 2, H361d	[2]	1 <= x % < 2.5

(Full text of H-phrases: see section 16)

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

If inhaled, move the patient to fresh air and keep warm and rest.

If unconscious, place in recovery position and call an ambulance.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

Flush with large amounts of water. Remove contact lenses if the victim is. Continue to rinse. Seek medical attention if symptoms persist.

In the event of splashes or contact with skin :

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Remove any soiled or splashed clothing immediately.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

In the event of an allergic reaction, seek medical attention.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Seek medical attention immediately, showing the label.

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

No data available.

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

Information for the doctor :

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to remain under medical supervision for 48 hours.

Contact a specialist for treatment poisoning if large quantities have been ingested or inhaled.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.
Do not breathe in smoke.
In the event of a fire, the following may be formed :
- carbon monoxide (CO)
- carbon dioxide (CO2)
- nitrogen oxide (NO)
- nitrogen dioxide (NO2)

5.3. Advice for firefighters

Firefighters should wear suitable protective clothing and a respirator mask with self- full operated in positive pressure mode.
Wear conform with the European standard EN 469.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Avoid any contact with the skin and eyes.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.
Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Neutralise with an acidic decontaminant.
If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.
Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.
Individuals with a history of skin sensitisation should not, under any circumstance, handle this mixture.

7.1. Precautions for safe handling

Always wash hands after handling.
Remove and wash contaminated clothing before re-using.
Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Fire prevention :

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.
Observe precautions stated on label and also industrial safety regulations.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Store in original container protected from direct sunlight in a dry, cool and well ventilated area away from heat sources.
Keep container tightly closed in a dry place.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

Scope advised: Stratification

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- Germany - AGW (BAuA - TRGS 900, 08/08/2019) :

CAS	VME :	VME :	Excess	Notes	
100-51-6		5 ppm 22 mg/m³		2 (I)	

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

BENZYL ALCOHOL (CAS: 100-51-6)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	40 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	8 mg/kg de poids corporel/jour
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	110 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	22 mg de substance/m3

Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	4 mg/kg de poids corporel/jour
Exposure method:	Ingestion.
Potential health effects:	Short term systemic effects.
DNEL :	20 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	4 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	20 mg/kg de poids corporel/jour
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	5.4 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	27 mg de substance/m3

2-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-56-8)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	2.5 mg/kg de poids corporel/jour
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	8.8 mg de substance/m3

3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE (CAS: 4067-16-7)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.

DNEL :	0.91 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term local effects.
DNEL :	0.044 mg de substance/cm2
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	8550 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	1.59 mg de substance/m3
Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Short term systemic effects.
DNEL :	32 mg/kg de poids corporel/jour
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	0.65 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	13 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Short term local effects.
DNEL :	1.59 mg de substance/cm2
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	0.4 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term local effects.
DNEL :	0.68 mg de substance/cm2
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	2542 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	0.46 mg de substance/m3

4-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-55-7)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	2.5 mg/kg de poids corporel/jour
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	8.8 mg de substance/m3

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	0.91 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.

Potential health effects:	Long term local effects.
DNEL :	0.44 mg de substance/cm2
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	8550 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	1.59 mg de substance/m3

Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Short term systemic effects.
DNEL :	32 mg/kg de poids corporel/jour
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	0.65 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	13 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Short term local effects.
DNEL :	1.59 mg de substance/cm2
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	0.4 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term local effects.
DNEL :	0.68 mg de substance/cm2
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	2542 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	0.46 mg de substance/m3

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	2.5 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term local effects.
DNEL :	0.623 mg de substance/cm2

Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	0.04 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	1.25 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.

Potential health effects: Long term local effects.
DNEL : 0.311 mg de substance/cm2

Predicted no effect concentration (PNEC):

BENZYL ALCOHOL (CAS: 100-51-6)
Environmental compartment: Soil.
PNEC : 0.456 mg/kg

Environmental compartment: Fresh water.
PNEC : 1 mg/l

Environmental compartment: Sea water.
PNEC : 0.1 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 2.3 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 5.27 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.527 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 39 mg/l

2-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-56-8)
Environmental compartment: Soil.
PNEC : 0.211 mg/kg

Environmental compartment: Fresh water.
PNEC : 0.47 mg/l

Environmental compartment: Sea water.
PNEC : 0.047 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 0.341 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 2.44 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.244 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 7.7 mg/l

3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE (CAS: 4067-16-7)
Environmental compartment: Soil.
PNEC : 0.18 mg/kg

Environmental compartment: Fresh water.
PNEC : 2.5 µg/l

Environmental compartment: Sea water.
PNEC : 2.5 µg/l

Environmental compartment: Fresh water sediment.
PNEC : 0.22 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.14 mg/kg

Environmental compartment:	Waste water treatment plant.
PNEC :	1.64 mg/l

4-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-55-7)

Environmental compartment:	Soil.
PNEC :	0.211 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.47 mg/l
Environmental compartment:	Sea water.
PNEC :	0.047 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	0.341 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	2.44 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.244 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	7.7 mg/l

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

Environmental compartment:	Soil.
PNEC :	10 mg/kg
Environmental compartment:	Fresh water.
PNEC :	1.6 µg/l
Environmental compartment:	Sea water.
PNEC :	1.6 µg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.14 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.14 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	3.19 mg/l

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

Environmental compartment:	Soil.
PNEC :	0.0176 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.015 mg/l
Environmental compartment:	Sea water.
PNEC :	0.0143 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	0.15 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.132 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.125 mg/kg

Environmental compartment:	Waste water treatment plant.
PNEC :	7.5 mg/l

8.2. Exposure controls

Use only with adequate ventilation or provided with ventilation at the source.

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :

Use personal protective equipment that is clean and has been properly maintained.
Store personal protective equipment in a clean place, away from the work area.
Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.
Use eye protectors designed to protect against liquid splashes
Before handling, wear safety goggles with protective sides accordance with standard EN166.
In the event of high danger, protect the face with a face shield.
Prescription glasses are not considered as protection.
Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.
Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.
Gloves must be selected according to the application and duration of use at the workstation.
Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.
Type of gloves recommended :
- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- Butyl Rubber (Isobutylene-isoprene copolymer)
Recommended properties :
- Impervious gloves in accordance with standard EN374

- Body protection

Avoid skin contact.
Wear suitable protective clothing.
In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact.
In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034 to prevent skin contact.
Wear suitable protective clothing and, in particular, an apron and boots. These items of clothing shall be maintained in good condition and cleaned after use.
Work clothing worn by personnel shall be laundered regularly.
After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :
Mask with filter type A, B, E, K, P
Attention! If the protection group is insufficient.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.
Color:	yellow

Important health, safety and environmental information

pH :	Not stated.
	Slightly basic.
Boiling point/boiling range :	Not relevant.
Flash Point Interval :	FP > 100°C.
Vapour pressure (50°C) :	Not relevant.
Density :	0.98 ± 0.02 @ 20°C

Water solubility :	Soluble.
Viscosity :	31 ± 6 mPa.s @ 25°C
Melting point/melting range :	Not relevant.
Self-ignition temperature :	Not relevant.
Decomposition point/decomposition range :	Not relevant.
Index of refraction :	1.4779 ± 0.002 @ 25 °C

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Keep away from :
- strong oxidising agents

10.6. Hazardous decomposition products

The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO2)
- nitrogen oxide (NO)
- nitrogen dioxide (NO2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

May cause irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following exposure between three minutes and one hour.
Corrosive reactions are typified by ulcers, bleeding, bloody scabs, and, by the end of observation at 14 days, by discolouration due to blanching of the skin, complete areas of alopecia, and scars.
May cause an allergic reaction by skin contact.

11.1.1. Substances

Acute toxicity :

2-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-56-8)

Dermal route :	LD50 > 3420 mg/kg Species : Rat OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

SALICYLIC ACID (CAS: 69-72-7)

Oral route :	LD50 = 891 mg/kg Species : Rat OCDE Ligne directrice 401 (Toxicité aiguë par voie orale)

BENZYL ALCOHOL (CAS: 100-51-6)

Oral route :	LD50 = 1620 mg/kg Species : Rat
Dermal route :	LD50 = 2000 mg/kg Species : Rat
Inhalation route (Dusts/mist) :	LC50 = 4.178 mg/l Species : Rat OCDE Ligne directrice 403 (Toxicité aiguë par inhalation) Duration of exposure : 4 h

3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE (CAS: 4067-16-7)

Oral route :	LD50 = 1600 mg/kg Species : Rat
Dermal route :	LD50 = 1465.4 mg/kg Species : Rabbit OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

4-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-55-7)

Oral route :	LD50 = 1276 mg/kg
Dermal route :	LD50 > 3420 mg/kg Species : Rat OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

Oral route :	LD50 = 1716.2 mg/kg Species : Rat OCDE Ligne directrice 401 (Toxicité aiguë par voie orale)
Dermal route :	LD50 = 1465.4 mg/kg Species : Rabbit OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

Oral route :	LD50 = 2885.3 mg/kg Species : Rat
Dermal route :	LD50 = 2979.7 mg/kg Species : Rabbit

Skin corrosion/skin irritation :

4-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-55-7)

OCDE Ligne directrice 404 (Effet irritant/corrosif aigu sur la peau.)

OCDE Ligne directrice 404 (Effet irritant/corrosif aigu sur la peau.)

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

Corrosivity :	Causes severe skin burns. Species : Rabbit OCDE Ligne directrice 404 (Effet irritant/corrosif aigu sur la peau.)

Respiratory or skin sensitisation :

BENZYL ALCOHOL (CAS: 100-51-6)

Guinea Pig Maximisation Test (GMPT) :	Non-sensitiser. Species : Guinea pig OCDE Ligne directrice 406 (Sensibilisation de la peau)

Germ cell mutagenicity :

3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE (CAS: 4067-16-7)

No mutagenic effect.

Mutagenesis (in vivo) : Negative.

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

No mutagenic effect.

Mutagenesis (in vivo) : Negative.
OCDE Ligne directrice 474 (Le test de micronoyaux sur les érythrocytes de mammifères)

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

No mutagenic effect.

Carcinogenicity :

BENZYL ALCOHOL (CAS: 100-51-6)

Carcinogenicity Test : Negative.
No carcinogenic effect.
Species : Mouse
OCDE Ligne directrice 453 (Études combinées de toxicité chronique et de cancérogénèse)

Reproductive toxicant :

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

OCDE Ligne directrice 414 (Étude de la toxicité pour le développement prénatal)

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

No toxic effect for reproduction

Study on development : Species : Rat
OCDE Ligne directrice 421 (Essai de dépistage de la toxicité pour la reproduction et le développement)

Specific target organ systemic toxicity - repeated exposure :

BENZYL ALCOHOL (CAS: 100-51-6)

Oral route : C = 400 mg/kg poids corporel/jour
Species : Rat
Duration of exposure : 90 jours

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

Species : Rat

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

Oral route : C = 239 mg/kg poids corporel/jour
Species : Rat
Duration of exposure : 28 jours
OCDE Ligne directrice 407 (Toxicité orale à doses répétées - pendant 28 jours sur les rongeurs)

Dermal route : C = 250 mg/kg poids corporel/jour
Duration of exposure : 90 jours
OCDE Ligne directrice 411 (Toxicité cutanée subchronique: 90 jours)

11.1.2. Mixture

No toxicological data available for the mixture.

SECTION 12 : ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.
The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.1. Substances

3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE (CAS: 4067-16-7)

Fish toxicity : Duration of exposure : 96 h

Crustacean toxicity : Duration of exposure : 48 h

NOEC = 0.8 mg/l
Species : Daphnia magna
Duration of exposure : 21 jours

Algae toxicity : ECr50 = 0.7 mg/l
Factor M = 1
Species : Pseudokirchnerella subcapitata
Duration of exposure : 72 h

OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

NOEC = 0.25 mg/l
Duration of exposure : 72 h

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)

Fish toxicity : LC50 > 15 mg/l
Species : Others
Duration of exposure : 96 h
OCDE Ligne directrice 203 (Poisson, essai de toxicité aiguë)

Crustacean toxicity : EC50 = 80 mg/l
Species : Others
Duration of exposure : 48 h
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

BENZYL ALCOHOL (CAS: 100-51-6)

Fish toxicity : LC50 = 460 mg/l
Species : Pimephales promelas
Duration of exposure : 96 h
OCDE Ligne directrice 203 (Poisson, essai de toxicité aiguë)

Crustacean toxicity : EC50 = 230 mg/l
Species : Daphnia magna
Duration of exposure : 48 h
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

NOEC = 51 mg/l
Species : Daphnia magna
Duration of exposure : 21 jours
OCDE Ligne directrice 211 (Daphnia magna, essai de reproduction)

Algae toxicity : ECr50 = 770 mg/l
Duration of exposure : 72 h
OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

NOEC = 310 mg/l
Duration of exposure : 72 h
OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)

Fish toxicity : LC50 = 100 mg/l
Species : Poecilia reticulata
Duration of exposure : 96 h

Crustacean toxicity : EC50 = 2.2 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

Algae toxicity : ECr50 = 0.23 mg/l
Species : Pseudokirchnerella subcapitata
Duration of exposure : 72 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

BENZYL ALCOHOL (CAS: 100-51-6)

Biodegradability : Rapidly degradable.

2-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-56-8)

Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

3,6,9,12-TETRA-AZATETRADECAMETHYLENEDIAMINE (CAS: 4067-16-7)
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

4-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-55-7)
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)
Biodegradability : Non-rapidly degradable.

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

12.3. Bioaccumulative potential

12.3.1. Substances

BENZYL ALCOHOL (CAS: 100-51-6)
Octanol/water partition coefficient : log Koe = 1.1

POLYETHYLENEPOLYAMINES (CAS: 68131-73-7)
Octanol/water partition coefficient : log Koe = -3.67

REACTION PRODUCTS OF DI-, TRI AND TETRA-PROPOXYLATED PROPANE-1.2-DIOL WITH AMMONIA (CAS: 9046-10-0)
Octanol/water partition coefficient : log Koe = 1.34

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 3 : Extremely hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.
Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.
Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.
Give to a certified disposal contractor.

Codes of wastes (Decision 2014/955/EC, Directive 2008/98/EEC on hazardous waste) :

07 01 08 * other still bottoms and reaction residues

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2019 - IMDG 2018 - ICAO/IATA 2020).

14.1. UN number

2735

14.2. UN proper shipping name

UN2735=AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(reaction products of di-, tri and tetra-propoxylated propane-1.2-diol with ammonia, polyethylenepolyamines)

14.3. Transport hazard class(es)

- Classification :

8

14.4. Packing group

II

14.5. Environmental hazards

- Environmentally hazardous material :

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	8	C7	II	8	80	1 L	274	E2	2	E
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ	Stowage Handling	Segregation	
	8	-	II	1 L	F-A, S-B	274	E2	Category A	SGG18 SG35	
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	8	-	II	851	1 L	855	30 L	A3 A803	E2	
	8	-	II	Y840	0.5 L	-	-	A3 A803	E2	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.
For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

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

No data available.

SECTION 15 : REGULATORY INFORMATION

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

- Classification and labelling information included in section 2:

The following regulations have been used:
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2020/217 (ATP 14)

- Container information:

No data available.

- Particular provisions :

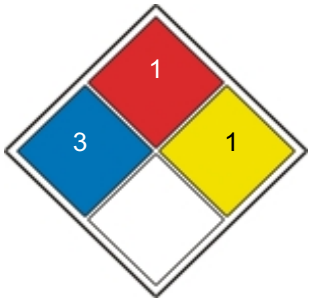
No data available.

- German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 3 : Extremely hazardous for water.

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=3 Inflammability=1 Instability/Reactivity=1 Specific Risk=none



15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.
The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.
It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.
The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H302	Harmful if swallowed.
H312	Harmful 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.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations :

DNEL : Derived No-Effect Level
PNEC : Predicted No-Effect Concentration
CMR: Carcinogenic, mutagenic or reprotoxic.
UFI : Unique Formula Identifier
ADR : European agreement concerning the international carriage of dangerous goods by Road.
IMDG : International Maritime Dangerous Goods.
IATA : International Air Transport Association.
ICAO : International Civil Aviation Organisation
RID : Regulations concerning the International carriage of Dangerous goods by rail.
WGK : Wassergefahrdungsklasse (Water Hazard Class).
GHS05 : Corrosion
GHS07 : Exclamation mark
GHS09 : Environment
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.