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 4772
Product code : 1944.
HARDENER
UFI : 2EP5-80F1-800D-HHH4

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, Schweiz
Telephone : +41 (0)31763 60 60 Fax : +41 (0)31763 60 61
e-mail: info@swiss-composite.ch
Site web : https://www.swiss-composite.ch

1.4. Emergency telephone number : .

Association/Organisation : ToxInfo Suisse, Tel. 145, International +41 (0)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.

Acute oral toxicity, Category 4 (Acute Tox. 4, H302).
Skin corrosion, Category 1A (Skin Corr. 1A, H314).
Serious eye damage, Category 1 (Eye Dam. 1, H318).
Skin sensitisation, Category 1 (Skin Sens. 1, H317).
Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H335).
Aspiration hazard, Category 1 (Asp. Tox. 1, H304).
Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).
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 GHS08 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 239-556-6	METHYLPENTANE DIAMINE

EC 254-052-6	DIISOPROPYLNAPHTALENE
EC 220-666-8	3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE
Hazard statements :	
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
Precautionary statements - General :	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
Precautionary statements - Prevention :	
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/ ...
Precautionary statements - Response :	
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.
Precautionary statements - Storage :	
P405	Store locked up.
Precautionary statements - Disposal :	
P501	Dispose of contents/container to hazardous waste.

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: 15520-10-2 EC: 239-556-6 REACH: 01-2119976310-41-XXXX METHYLPENTANE DIAMINE	GHS07, GHS05 Dgr Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Acute Tox. 4, H332 STOT SE 3, H335		10 <= x % < 25
CAS: 38640-62-9 EC: 254-052-6 REACH: 01-2119565150-48-XXXX DIISOPROPYLNAPHTALENE	GHS09, GHS08 Dgr Asp. Tox. 1, H304 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	GHS07, GHS05 Dgr		10 <= x % < 25

REACH: 01-2119977080-39-XXXX 4-METHYLCYCLOHEXANE-1,3-DIAMINE	Acute Tox. 4, H302 Skin Corr. 1B, H314		
CAS: 2855-13-2 EC: 220-666-8 REACH: 01-2119514687-32-XXXX 3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE	GHS07, GHS05 Dgr Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Chronic 3, H412		2.5 <= x % < 10
CAS: 13897-56-8 EC: 237-667-4 REACH: 01-2119977080-39-XXXX 2-METHYLCYCLOHEXANE-1,3-DIAMINE	GHS07, GHS05 Dgr Acute Tox. 4, H302 Skin Corr. 1B, H314		2.5 <= x % < 10

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

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 :

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

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.

If swallowed accidentally, do not allow to drink, do not induce vomiting and transfer to hospital immediately by ambulance. Show the label to the doctor.

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.

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

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 inhaling the vapors.
Avoid any contact with the skin and eyes.
If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

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 :

Handle in well-ventilated areas.
Never inhale this mixture.
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.
Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.
Provide vapor extraction at the emission source and also general ventilation of the premises.
Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.
In all cases, recover emissions at source.

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

Keep out of reach of children.
Keep the container tightly closed in a dry, well-ventilated place.
Keep away from food and drink, including those for animals.

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

Packaging

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

7.3. Specific end use(s)

Scope advised: Stratification
Scope advised : Injection Moulding - infusion

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No data available.

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

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-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)

Final use:	**Workers.**
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	20.1 mg de substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	20.1 mg de substance/m3
Final use:	**Man exposed via the environment.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	0.526 mg/kg de poids corporel/jour

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

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)

Final use:	**Workers.**
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	30 mg de substance/m3
Final use:	**Man exposed via the environment.**
Exposure method:	Ingestion.
Potential health effects:	Long term local effects.
DNEL :	2.1 mg/kg de poids corporel/jour
Exposure method:	Dermal contact.
Potential health effects:	Long term local effects.
DNEL :	2.1 mg/kg de poids corporel/jour

Exposure method: Inhalation.
Potential health effects: Long term local effects.
DNEL : 7.4 mg de substance/m3

METHYLPENTANE DIAMINE (CAS: 15520-10-2)

Final use: **Workers.**
Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 1.5 mg/kg de poids corporel/jour

Exposure method: Inhalation.
Potential health effects: Long term local effects.
DNEL : 0.25 mg de substance/m3

Final use: **Consumers.**
Exposure method: Ingestion.
Potential health effects: Long term systemic effects.
DNEL : 0.75 mg/kg de poids corporel/jour

Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 0.75 mg/kg de poids corporel/jour

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 0.125 mg de substance/m3

Exposure method: Inhalation.
Potential health effects: Short term systemic effects.
DNEL : 0.25 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):

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-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)
Environmental compartment: Soil.
PNEC : 1.121 mg/kg

Environmental compartment: Fresh water.
PNEC : 0.06 mg/l

Environmental compartment: Sea water.
PNEC : 0.006 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 0.23 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 5.784 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.578 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 3.18 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

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)
Environmental compartment: Soil.
PNEC : 0.19 mg/kg

Environmental compartment: Fresh water.
PNEC : 0.26 g/kg

Environmental compartment:	Sea water.
PNEC :	0.026 µg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.94 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.094 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	0.15 mg/l

METHYLPENTANE DIAMINE (CAS: 15520-10-2)

Environmental compartment:	Soil.
PNEC :	1.27 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.42 mg/l
Environmental compartment:	Sea water.
PNEC :	0.042 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	0.42 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	7.58 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.758 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	1250 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 :
- Natural latex
- 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, in particular overalls and boots. These items must be kept 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

Avoid breathing vapours.
If the ventilation is insufficient, wear appropriate breathing apparatus.
When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.
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:	colorless to pale 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 :	0.93 ± 0.01 @ 20°C
Water solubility :	Soluble.
Viscosity :	6.2 ± 1.2 mPa.s @ 25°C
Viscosity:	v < 7 mm2/s (40°C)

Melting point/melting range :	Not relevant.
Self-ignition temperature :	Not relevant.
Decomposition point/decomposition range :	Not relevant.
Index of refraction :	1.4814 ± 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

Harmful if swallowed.

May cause irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following exposure for up to three minutes.

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.

Respiratory tract irritation may occur, together with symptoms such as coughing, choking and breathing difficulties.

May cause an allergic reaction by skin contact.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

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)

3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)

Oral route :	LD50 = 1030 mg/kg Species : Rat
Dermal route :	LD50 > 2000 mg/kg Species : Rat OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)
Inhalation route (n/a) :	LC50 > 5.01 mg/l Species : Rat OCDE Ligne directrice 403 (Toxicité aiguë par inhalation)

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)

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)

Oral route : LD50 > 4000 mg/kg
Species : Rat
OCDE Ligne directrice 401 (Toxicité aiguë par voie orale)

Dermal route : LD50 > 4000 mg/kg
Species : Rat
OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

Inhalation route (n/a) : LC50 > 5.6 mg/l
Species : Rat
OCDE Ligne directrice 403 (Toxicité aiguë par inhalation)

METHYLPENTANE DIAMINE (CAS: 15520-10-2)

Oral route : LD50 = 1170 mg/kg
Species : Rat

Dermal route : LD50 = 1870 mg/kg
Species : Rabbit

Inhalation route (n/a) : LC50 = 4.9 mg/l
Species : Rat
Duration of exposure : 4 h

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 :

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)

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

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 :

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)

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

3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)

Species : Rabbit
OCDE Ligne directrice 406 (Sensibilisation de la peau)

Germ cell mutagenicity :

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

No mutagenic effect.

Reproductive toxicant :

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)
No toxic effect for reproduction

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 :

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

Aspiration hazard :

May be fatal if swallowed and enters airways.
Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

SECTION 12 : ECOLOGICAL INFORMATION

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

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)
Fish toxicity : EC0 mg/l
Duration of exposure : 96 h
OCDE Ligne directrice 203 (Poisson, essai de toxicité aiguë)

Crustacean toxicity : EC50 = 1.7 mg/l
Species : Daphnia magna
Duration of exposure : 48 h
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

EC0 mg/l
Duration of exposure : 48 h
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

NOEC = 0.013 mg/l
Factor M = 1
Duration of exposure : 21 jours
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

Algae toxicity : EC0 mg/l
Duration of exposure : 72 h
OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)
Fish toxicity : LC50 = 110 mg/l
Species : Leuciscus idus
Duration of exposure : 96 h

Crustacean toxicity : EC50 = 23 mg/l
Species : Daphnia magna
Duration of exposure : 48 h
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

NOEC = 3 mg/l
Species : Daphnia magna
Duration of exposure : 21 jours
OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

Algae toxicity : ECr50 > 50 mg/l
Species : Desmodesmus subspicatus
Duration of exposure : 72 h

NOEC = 1.5 mg/l
Species : Desmodesmus subspicatus
Duration of exposure : 72 h
Autres lignes directrices

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)

METHYLPENTANE DIAMINE (CAS: 15520-10-2)
Fish toxicity : LC50 = 1825 mg/l
Species : Pimephales promelas
Duration of exposure : 96 h

Crustacean toxicity : EC50 = 19.8 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

NOEC = 4.16 mg/l
Species : Daphnia magna
Duration of exposure : 21 jours

Algae toxicity : ECr50 > 100 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

2-METHYLCYCLOHEXANE-1,3-DIAMINE (CAS: 13897-56-8)
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)
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.

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

METHYLPENTANE DIAMINE (CAS: 15520-10-2)
Biodegradability : 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

3-AMINOMETHYL-3,5,5-TRIMETHYL-CYCLOHEXYLAMINE (CAS: 2855-13-2)
Octanol/water partition coefficient : log Koe = 0.99
OCDE Ligne directrice 107 (Coefficient de partage (n-octanol/eau): méthode par agitation en flacon)

DIISOPROPYLNAPHTALENE (CAS: 38640-62-9)
Octanol/water partition coefficient : log Koe >= 4.5

Bioaccumulation : BCF > 500

METHYLPENTANE DIAMINE (CAS: 15520-10-2)
Octanol/water partition coefficient : log Koe <= 1

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 2019).

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, methylpentane diamine)

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	8	II	851	1 L	855	30 L	A3 A803	E2	
	8	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. 2018/1480 (ATP 13)
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2019/521 (ATP 12)

- Container information:

Packaging to be fitted with child-resistant fastenings (see EC Regulation No. 1272/2008, Annex II, Part 3).
Containers to be fitted with a tactile warning of danger (see EC Regulation No. 1272/2008, Annex II, Part 3).

- Particular provisions :

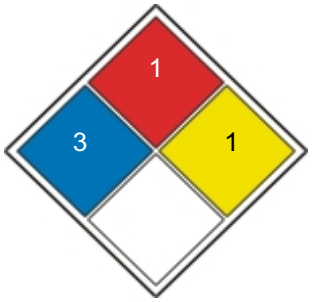
No data available.

- 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.
H304	May be fatal if swallowed and enters airways.
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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
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
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
GHS08 : Health hazard
GHS09 : Environment
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.