Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Product name: **XEPOX14 Componente A**
XEPOXP primer componente A
XEPOXP3000 primer componente A

Chemical name and synonym: **modified epoxy resin**

UFI : **G360-80PP-M00A-1HYG**

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

Intended use: **Component A for the preparation of two-component epoxy adhesive for professional uses in the building sector. Recommended for gluing of timber, metal, CLS or FRP structural elements.**

Identified Uses	Industrial	Professional	Consumer
TWO-COMPONENT EPOXY ADHESIVE	ERC: 8a, 8b, 8c, 8d, 8f. PROC: 10, 5. PC: 1.	ERC: 7, 8a, 8b, 8c, 8d, 8f. PROC: 10, 5. PC: 1.	-

1.3. Details of the supplier of the safety data sheet

Name: **Rotho Blaas Srl**
Full address: **via dell'Adige 2/1 -**
District and Country: **39040 Cortaccia (BZ)**
ITALY

Tel. +39 0471 81 84 00

e-mail address of the competent person responsible for the Safety Data Sheet: **reach@rothoblaas.com**

1.4. Emergency telephone number

For urgent inquiries refer to: **UK NPIS 0344 892 0111**
Ireland NPIC (01) 809 2566

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

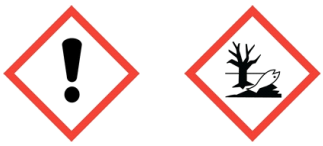
Hazard classification and indication:

Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Warning

Hazard statements:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

Precautionary statements:

P280	Wear protective gloves / eye protection / face protection.
P273	Avoid release to the environment.
P391	Collect spillage.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.

Contains:	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane
	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
	Reaction mass of Bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane INDEX - EC 216-823-5 CAS 1675-54-3 REACH Reg. 01-2119456619-26-XXXX	50 ≤ x < 75	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol INDEX - EC 701-263-0 CAS 9003-36-5 REACH Reg. 01-2119454392-40-xxxx	15 ≤ x < 25	Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2) INDEX - EC 618-939-5 CAS 933999-84-9 REACH Reg. 01-2119463471-41-xxxx	15 ≤ x < 25	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 3 H412
Reaction mass of Bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate INDEX - EC 915-687-0 CAS - REACH Reg. 01-2119491304-40-XXXX	0,25 ≤ x < 1	Repr. 2 H361f, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

If possible contain the spilled material. Absorb with materials such as: Sand. Collect in suitable and correctly labeled containers.
Provide sufficient ventilation of the place affected by the leak. The disposal of contaminated material must be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

See the exposure scenarios attached to this safety datasheet.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,006	mg/l
Normal value in marine water	0,0006	mg/l
Normal value for fresh water sediment	0,996	mg/kg

Normal value for marine water sediment	0,0996	mg/kg
Normal value for water, intermittent release	0,018	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the food chain (secondary poisoning)	11	mg/kg
Normal value for the terrestrial compartment	0,196	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0,75 mg/kg bw/d		0,75 mg/kg bw/d				
Inhalation						12,25 mg/m3		12,25 mg/m3
Skin		3,571 mg/kg bw/d		3,571 mg/kg bw/d		8,33 mg/kg bw/d		8,33 mg/kg bw/d

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,011	mg/l
Normal value in marine water	0,0011	mg/l
Normal value for fresh water sediment	0,283	mg/kg
Normal value for marine water sediment	0,0283	mg/kg
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	0,223	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		1,5 mg/kg bw/d		1,5 mg/kg bw/d				
Inhalation		5,29 mg/m3	0,27 mg/m3	5,29 mg/m3		10,57 mg/m3	0,44 mg/m3	10,57 mg/m3
Skin	0,0136 mg/cm2	1,7 mg/kg bw/d	0,0136 mg/cm2	3 mg/kg bw/d	0,0226 mg/cm2		0,0226 mg/cm2	6 mg/kg bw/d

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,003	mg/l
Normal value in marine water	0,0003	mg/l
Normal value for fresh water sediment	0,294	mg/kg/d
Normal value for marine water sediment	0,0294	mg/kg/d
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,237	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		6,25 mg/kg bw/d				
Inhalation	NPI	NPI	NPI	8,7 mg/m3	NPI	NPI	NPI	29,39 mg/m3
Skin	NPI	NPI	NPI	62,5 mg/kg bw/d	NPI	NPI	NPI	104,15 mg/kg bw/d

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0022	mg/l
Normal value in marine water	0,00022	mg/l
Normal value for marine water sediment	0,11	mg/kg
Normal value for water, intermittent release	0,009	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the food chain (secondary poisoning)	NPI	
Normal value for the terrestrial compartment	0,21	mg/kg
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,18 mg/kg bw/d				
Inhalation				0,31 mg/m3				1,27 mg/m3
Skin				0,9 mg/kg bw/d				1,8 mg/kg bw/d

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

When choosing risk management measures and operating conditions, consult the exposure scenarios attached.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

For information on controlling environmental exposure, see the exposure scenarios attached to this safety datasheet.

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

Hand skin protection:
Chemical resistant and impermeable gloves conforming to approved standards should always be used when handling chemicals if the risk assessment indicates this is necessary.
Considering the parameters specified by the glove manufacturer, check during use that the gloves still maintain their protective properties. Note that the breakthrough time for any glove material may vary depending on the glove manufacturer. of mixtures composed of several substances, it is not possible to accurately estimate the protection time of the gloves.
Material: 730 Camatril
Minimum breakthrough time: 480 min
Material: 898 Butoject
Minimum breakthrough time: 480 min
Manufacturer: This recommendation is only valid for our product in the delivery conditions. If this product will be mixed with other substances, you will need to contact a supplier of CE approved protective gloves.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not coloured - light yellow	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	> 150 °C	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	> 150 °C	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	not available	Reason for missing data:substance/mixture is non-soluble (in water)
Kinematic viscosity	>20,5 mm2/sec (40°C)	
Dynamic viscosity	1100 mPa.s	Temperature: 25 °C
Solubility	soluble in organic solvents	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	1,11 g/cm3	Temperature: 25 °C
Relative vapour density	not available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	0,50 % - 5,55 g/litre
Explosive properties	not applicable
Oxidising properties	not applicable

SECTION 10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

Reacts with: amines,aliphatic amines,amides,organic anhydrides.

Avoid contact with: strong oxidising agents,sodium hydroxide.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

Stable in normal conditions of use and storage.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

Stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

10.4. Conditions to avoid

Avoid overheating.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

In decomposition develops: carbon monoxide,halogenated compounds.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

LD50 (Dermal):	> 2000 mg/kg Metodo: Linee Guida 402 per il Test dell'OECD
LD50 (Oral):	> 2000 mg/kg Metodo: Linee Guida 420 per il Test dell'OECD

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

LD50 (Dermal):	> 2000 mg/kg rat OECD TG 402
LD50 (Oral):	2189 mg/kg rat OECD TG 401

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

LD50 (Dermal):	> 2000 mg/kg rabbit
LD50 (Oral):	> 2000 mg/kg rat

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)

LD50 (Dermal):	> 3000 mg/kg Rat OECD 402
LD50 (Oral):	> 3000 mg/kg Rat OECD 423

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Remarks - Oral:
The acute oral toxicity of 1,6-hexanedioldiglycidyl ether (HDDGE) was evaluated in Sprague-Dawley rats in a study conducted in accordance with OECD Test Specification No. 401 and in a GLP-compliant manner. The acute oral median lethal dose (LD50) and 95% confidence limits for 1,6-hexanediol diglycidyl ether in Sprague-Dawley rats were 3741 and 3341-4085 mg / kg body weight, respectively. This degree of oral toxicity does not require classification or labeling, according to the criteria of the Commission of the European Communities (Annex VI of Council Directive 67/548 / EEC).
It follows that classification and labeling for acute oral toxicity are not required.This degree of oral toxicity does not require classification or labeling, according to the criteria of the Commission of the European Communities (Annex VI of Directive 67/548 / EEC of the Council).
Remarks - Inhalation:
The acute inhalation toxicity potential of 1,6-hexanedioldiglycidyl ether (HDDGE) was assessed in a study conducted in accordance with OECD Test Specification No. 433 and in a GLP-compliant manner. The animals were exposed by inhalation of the whole body to HDDGE mainly in the vapor phase. The highest possible concentration of HDDGE, 0.035 mg / l air (3.7 ppm), did not induce mortality and was not toxic to rats after a single 4-hour whole body exposure.
The acute dermal toxicity potential of 1,6-hexanedioldiglycidyl ether (HDDGE) in rats was assessed in a study conducted in accordance with OECD Test Specification No. 402 and in a GLP-compliant manner. No cases of mortality were observed during the study. The no observed effect level (NOEL) of the test material, 1,6-hexanedioldiglycidyl ether, in the rat Sprague-Dawley strain was found to be greater than 2000 mg / kg body weight.
As a result, classification and labeling for acute dermal exposure are not required.

SKIN CORROSION / IRRITATION

Causes skin irritation

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Primary Skin Irritation Index (PDII)
Skin - Rabbit 6.2
Eyes - Redness of the conjunctivae Rabbit 3.3.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
This product must be considered: Causes skin irritation. Information given is based on data obtained from similar substances. CAS: 9003-36-5 - Formaldehyde, polymer with (chloromethyl) oxirane and phenol Causes skin irritation. The tests were carried out on rabbits. Reference: Registration dossier - ECHA Chem CAS: 25068-38-6 - Epoxy resin (number average molecular weight ≤ 700) Reaction product: bisphenol-A- (epichlorhydrin) Pursuant to Annex VI of EC regulation 1272/2008: Causes skin irritation.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
Species: Rabbit
Assessment: Mild eye irritant
Method: OECD Test Guideline 405
Result: Irritating to eyes.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Species: Rabbit
Assessment: Irritating
Method: OECD Test Guideline 405
Result: Irritating to eyes.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
This product must be considered: Causes serious eye irritation. Information given is based on data obtained from similar substances. CAS: 25068-38-6 - Epoxy resin (number average molecular weight ≤ 700) Reaction product: bisphenol-A- (epichlorhydrin) According to annex VI of EC regulation 1272/2008: Causes serious eye irritation.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
This product must be considered: May cause an allergic skin reaction. Information given is based on data obtained from similar substances. CAS: 9003-36-5 - Formaldehyde, polymer with (chloromethyl) oxirane and phenol Skin sensitization test on guinea pigs - local lymph node test (LLNA): positive Reference: Registration dossier - ECHA Chem CAS: 25068-38-6 - Epoxy resin (number average molecular weight ≤ 700) Reaction product: bisphenol-A- (epichlorhydrin) According to annex VI of EC regulation 1272/2008: May cause an allergic skin reaction.

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)
May cause an allergic skin reaction.

Skin sensitization

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
In a study with LLNA assay on mice conducted according to OECD standard no. 429, the estimated EC3 corresponded to a concentration of 5.7%; this result suggests that BADGE is a moderate skin sensitizer in this test system. In a study of maximization on guinea pig according to OECD standard no. 406, BADGE induced a positive skin reaction in 100% of the experimental animals at a stimulus dose with a concentration of 50%. Therefore, BADGE is an "extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in a study with the Buehler method on guinea pigs conducted according to OECD standard no. 406.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
The skin sensitization potential of 1,6-hexanedioldiglycidyl ether (HDDGE) was assessed in a mouse local lymph node assay (LNNA) study conducted in accordance with OECD Standard 429 with GLP compliance, including verification of stability and the concentration of the test substance. HDDGE was found to be a skin sensitizer in the mouse local lymph node assay (LLNA). The authors concluded that the estimated concentration 3 for HDDGE based on DPM data was 1.9% w / v and judged that HDDGE has moderate skin sensitization potential based on the results of this study. The cutaneous DMEL / DNEL for workers, based on the results of this study, was estimated to be 22.6 ug / cm2.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
In several studies, BADGE was found to induce gene mutation in experimental Ames / Salmonella TA1535 and TA100 strains. In general, mutagenic activity was greater without liver S9 metabolic activation. Induced gene mutation in L5178Y mouse lymphoma cells. Induced gene mutation and chromosomal damage in Chinese hamster V79 cells. Induced cell transformation into Syrian hamster BHK cells based on clonal growth in soft agar.
It induced no evidence of chromosomal damage in an oral probe study in a mouse dominant lethal test conducted up to a high dose level of 10 grams / kg and in a mouse micronuclear test conducted up to a high dose of 5000 mg / kg. Negative in a male mouse spermatocytic cytogenetic assay with treatment for 5 days by oral tube up to a high dose of 3000 mg / kg. It did not induce an increase in the frequency of chromosomal damage in an oral Chinese hamster bone marrow cell cytogenetic assay up to a high dose of 3300 mg / kg. It did not induce an increase in DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg / kg, measured by alkaline elution.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Concentration: 5000 ug / plate
Metabolic activation: with or without metabolic activation
Method: OECD Test Guideline 471
Result: positive
Cell type: Somatic
Application method: Oral
Exposure time: 16 h
Dose: 2000 mg / kg
Method: OECD Test Guideline 486
Result: negative
Cell type: Somatic
Application method: Oral
Dose: 1000 mg / kg
Method: OECD Test Guideline 474
Result: negative.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
This product must NOT be considered: Mutagenic Information given is based on data obtained from similar substances. CAS: 9003-36-5 - Formaldehyde, polymer with (chloromethyl) oxirane and phenol The in vitro tests revealed mutagenic effects, when the in vivo tests did not reveal them. Reference: Registration dossier - ECHA Chem.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
In a rat study with oral probe according to OECD standard no. 453 there was no evidence of carcinogenicity up to the high dose level of 100 mg / kg / day. Skin exposure studies were conducted on male and female rats according to OECD standard no. 453. No evidence of carcinogenicity was observed in male mice treated up to the high dose of 100 mg / kg / day and female rats exposed up to the high dose of 1000 mg / kg / day.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
In accordance with Column 2 of the REACH regulation, Annex X, it is not necessary to perform the test (required in Section 8.9.1) based on the results of the chemical safety assessment. Furthermore, 1,6-hexanedioldiglycidyl ether is not genotoxic in vivo and is not a Category 3 Mutagen.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
This product must NOT be considered: Toxic for reproduction. Information given is based on data obtained from similar substances. CAS: 9003-36-5 - Formaldehyde, polymer with (chloromethyl) oxirane and phenol Animal experiments in the laboratory did not show toxic effects on reproduction. Reference: Registration dossier - ECHA Chem.

Adverse effects on sexual function and fertility

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
Test type: Two-generation study
Species: Rat, male and female
Application method: Oral
Dose:> 750 Milligrams per kilo

General toxicity parents: Level within which no effects are observed: 540 mg / kg body weight
General toxicity F1: Level within which no effects are observed: 540 mg / kg body weight
Symptoms: No side effects.
Method: OECD Test Guideline 416
Result: There was no effect on fertility and early embryonic development.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
An "advanced" one-generation reproductive toxicity study (OECD No. 415) or a two-generation reproductive toxicity study (OECD No. 416) in rats, via an appropriate route of exposure, is proposed by the consortium members. subject to approval of the testing plan by ECHA.

Adverse effects on development of the offspring

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
BADGE did not induce any evidence of developmental toxicity in rats and rabbits exposed by oral tube, or in rabbits treated by the dermal route, in GLP studies according to OECD standard No. 414. Oral tube studies were conducted up to a high dose level of 180 mg / kg / day which produced maternal toxicity based on decreased body weight gain. The rabbit skin toxicity study was conducted up to a high dose of 300 mg / kg / day which induced maternal toxicity based on decreased body weight gain.
Species: Rabbit, female
Method of application: Dermal
General toxicity in mothers: No harmful level observed: 30 mg / kg body weight
Method: Other reference guides
Result: No teratogenic effects.
Species: Rabbit, female
Application method: Oral
General toxicity in mothers: No observed harmful level: 60 mg / kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.
Species: Rat, female
Application method: Oral
General toxicity in mothers: No observed harmful level: 180 mg / kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
The mutagenic potential of 1,6-hexanedioldiglycidyl ether (HDDGE) was evaluated in a bacterial mutation study conducted according to OECD Test Specification No. 471 in a GLP compliant manner. Increases in the frequency of dose-related mutations were observed on experimental strains TA 1535, TA 1538 and TA 100. HDDGE was mutagenic to strains TA 1535 and TA 100, with and without preparations for metabolic activation with S9 derived from liver of rat. Therefore, under the reported experimental conditions, 1,6-hexanedioldiglycidyl ether induced point mutations from base pair changes (or mutations in strain TA 1538) in the genome of the strains used and HDDGE is considered to be mutagenic in this reverse mutation assay. on Salmonella typhimurium.
The ability of 1,6-hexanedioldiglycidyl ether (HDDGE) to induce repairable DNA damage was assessed in an in vivo / in vitro study in rat hepatocytes, conducted according to OECD Test Standard No. 486 UDS, in accordance with BPL. HDDGE has been tested up to a high oral dose of 2000 mg / kg body weight. 1,6-hexanedioldiglycidyl ether (HDDGE) induced no evidence of repairable DNA damage in hepatocytes following oral treatment with up to 2000 mg / kg body weight. It is concluded that HDDGE is not genotoxic under the conditions of the study.

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)
Ames and/or Micronucleus Test: negative

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
Species: Rat, male and female
NOAEL: 50 mg / kg
Application method: Ingestion
Exposure time: 14 WeeksNumber of exposures: 7 d
Method: Subchronic toxicity
Species: Rat, male and female

NOEL: 10 mg / kg
Method of application: Skin contact
Exposure time: 13 WeeksNumber of exposures: 5 d
Method: Subchronic toxicity
Species: Mouse, male
NOAEL: 100 mg / kg
Method of application: Skin contact
Exposure time: 13 WeeksNumber of exposures: 3 d
Method: Subchronic toxicity
Repeated Dose Toxicity - Evaluation:
No adverse effects were observed in chronic toxicity tests.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: >20,5 mm2/sec (40°C)

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
There is no classification for aspiration toxicity.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.
12.1. Toxicity

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Toxicity to microorganisms:
CI50:> 100 mg / l
Exposure time: 3 h.
Test type: Static test
Test substance: Fresh water
Method: OECD TG 209.
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)
EC50 (24h) (static) 10 mg / L
(Daphnia) (OECD Guideline 202, Daphnia magna)

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	
LC50 - for Fish	30 mg/l/96h Onchorhynchus mykiss OECD TG 203
EC50 - for Crustacea	47 mg/l/48h Daphnia magna OECD TG 202

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane	
LC50 - for Fish	1,41 mg/l/96h Tipo di test: Prova statica
EC50 - for Crustacea	2,7 mg/l/48h Tempo di esposizione: 48 h

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)	
LC50 - for Fish	0,9 mg/l Danio rerio OECD 203
Chronic NOEC for Crustacea	1 mg/l (Daphnia) (OECD Guideline 211, Daphnia magna) 21d
Chronic NOEC for Algae / Aquatic Plants	0,22 mg/l (Algae) (OECD Guideline 201, Desmodesmus subspicatus)

12.2. Persistence and degradability

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
The level of biodegradation in an "improved" OECD 301F study was 5% within the 28-day contact period. Biodegradation reached 6 - 12% after 28 days of contact in a study conducted according to OECD standard No. 301B. Therefore BADGE is not readily biodegradable under the conditions of the studies.
Stability in water:

Half-life to degradation (TD50): 4.83 d (25 ° C)
pH: 4
Method: OECD TG 111
Observations: Fresh water
Half-life to degradation (TD50): 7.1 d (25 ° C)
pH: 9
Method: OECD TG 111
Observations: Fresh water
Half-life to degradation (TD50): 3.58 d (25 ° C)
pH: 7
Method: OECD TG 111
Observations: Fresh water.
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Inoculum: activated sludge
Concentration: 2 mg / l
Result: Not biodegradable.
Biodegradation: approx. 47%
Exposure time: 28 d
Method: OECD Test Guideline 301D.
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
This product should NOT be considered: It is rapidly biodegradable. Information given is based on data obtained from similar substances. CAS: 9003-36-5 - Formaldehyde, polymer with (chloromethyl) oxirane and phenol Not readily biodegradable (0% / 28 days). Reference: Registration dossier - ECHA Chem CAS: 25068-38-6 - Epoxy resin (number average molecular weight ≤ 700) Reaction product: bisphenol-A- (epichlorhydrin) According to annex VI of EC regulation 1272/2008: Not immediately biodegradable.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
NOT rapidly degradable

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
NOT rapidly degradable

12.3. Bioaccumulative potential

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
LogPow 2.64 - 3.78
BCF 3 - 31 31.00
Low potential.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

Partition coefficient: n-octanol/water	0,822 pH 6-8 @ 20° C

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane

Partition coefficient: n-octanol/water	2,281
BCF	< 6,8 10 ug/l

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

BCF	150

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)

BCF	< 31,4

12.4. Mobility in soil

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
Diffusion in the various environmental sectors: Koc: 445.
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Koc: approx. 962
Method: OECD Test Guidelines 121.
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
Moderately high mobility in soil. Information given is based on data obtained from similar substances. CAS: 9003-36-5 - Formaldehyde, polymer with (chloromethyl) oxirane and phenol Reference: Registration dossier - ECHA Chem.

12.5. Results of PBT and vPvB assessment

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
This substance / mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher.
On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Endocrine disrupting properties

2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.
Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: 3082

ADR / RID:	In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to ADR provisions.
IMDG:	In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IMDG Code provisions.
IATA:	In accordance with SP A197, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

14.2. UN proper shipping name

ADR / RID:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane; Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
IMDG:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane; Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
IATA:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane; Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)

14.3. Transport hazard class(es)

ADR / RID:	Class: 9	Label: 9
IMDG:	Class: 9	Label: 9
IATA:	Class: 9	Label: 9

14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID:	Environmentally Hazardous
IMDG:	Marine Pollutant
IATA:	Environmentally Hazardous

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 L	Tunnel restriction code: (-)
	Special provision: -		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Pass.:	Maximum quantity: 450 L	Packaging instructions: 964
	Special provision:	A97, A158, A197, A215	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Repr. 2	Reproductive toxicity, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H361f	Suspected of damaging fertility.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Use descriptor system:

ERC	**7**	Use of functional fluid at industrial site
ERC	**8a**	Widespread use of non- reactive processing aid (no inclusion into or onto article, indoor)
ERC	**8b**	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC	**8c**	Widespread use leading to inclusion into/onto article (indoor)
ERC	**8d**	Widespread use of non- reactive processing aid (no inclusion into or onto article, outdoor)
ERC	**8f**	Widespread use leading to inclusion into/onto article (outdoor)
PC	**1**	Adhesives, sealants
PROC	**10**	Roller application or brushing
PROC	**5**	Mixing or blending in batch processes

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
01 / 02 / 08 / 09 / 11 / 15 / 16.

Exposure Scenarios

Substance	2,2 '- [(1-methylethylidene) bis (4,1-phenyleneoxymethylene)] bisoxirane
Scenario Title	Resina epossidica da bisfenolo A
Revision nr.	1
File	1

Substance	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
Scenario Title	Resina epossidica da bisfenolo F
Revision nr.	1
File	2

Substance	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
Scenario Title	CAS-933999-84-9
Revision nr.	1
File	3

Substance	Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl)
Scenario Title	ADD_124
Revision nr.	1
File	4

Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Product name	**XEPOX14 Componente B** **XEPOXP primer componente B** **XEPOXP3000 primer componente B**
Chemical name and synonym	**polyamines**
UFI :	**6560-S0D2-W00T-PVJJ**

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

Intended use: **Component B for the preparation of two -component epoxy adhesive for professional uses in the building sector. Recommended for gluing of timber, metal, CLS or FRP structural elements.**

Identified Uses	Industrial	Professional	Consumer
TWO-COMPONENT EPOXY ADHESIVE	ERC: 8a, 8b, 8c, 8d, 8f. PROC: 10, 5. PC: 1.	ERC: 7, 8a, 8b, 8c, 8d, 8f. PROC: 10, 5. PC: 1.	-

1.3. Details of the supplier of the safety data sheet

Name Full address District and Country	**Rotho Blaas Srl** **via dell'Adige 2/1 -** **39040 Cortaccia (BZ)** **ITALY** **Tel. +39 0471 81 84 00**
e-mail address of the competent person responsible for the Safety Data Sheet	**reach@rothoblaas.com**

1.4. Emergency telephone number

For urgent inquiries refer to	**UK NPIS 0344 892 0111** **Ireland NPIC (01) 809 2566**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Acute toxicity, category 4	H302	Harmful if swallowed.
Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P280	Wear protective gloves/ protective clothing / eye protection / face protection.

Contains: 3-aminomethyl-3,5,5-trimethylcyclohexylamine
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
Phenyl methanol

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
3-aminomethyl-3,5,5-trimethylcyclohexylamine INDEX 612-067-00-9 EC 220-666-8 CAS 2855-13-2 REACH Reg. 01-2119514687-32-xxxx	30 ≤ x < 50	Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317 LD50 Oral: 1030 mg/kg
Phenyl methanol INDEX 603-057-00-5 EC 202-859-9 CAS 100-51-6 REACH Reg. 1-2119492630-38-0000	30 ≤ x < 50	Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319 LD50 Oral: 1620 mg/kg, LC50 Inhalation mists/powders: >4,178 mg/l/4h
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine INDEX - EC 500-101-4 CAS 38294-64-3 REACH Reg. 01-2119965165-33-0012	25 ≤ x < 30	Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Chronic 3 H412

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Information not available

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

If possible contain the spilled material. Absorb with materials such as: Sand. Collect in suitable and correctly labeled containers.
Provide sufficient ventilation of the place affected by the leak. The disposal of contaminated material must be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

See the exposure scenarios attached to this safety datasheet.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	Nařízení vlády č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,06	mg/l
Normal value in marine water	0,006	mg/l
Normal value for fresh water sediment	5,784	mg/kg
Normal value for marine water sediment	0,578	mg/kg
Normal value for water, intermittent release	0,23	mg/l
Normal value of STP microorganisms	3,18	mg/l
Normal value for the terrestrial compartment	1,121	mg/kg
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0,3 mg/kg bw/d		0,3 mg/kg bw/d				
Inhalation	NPI	NPI	NPI	NPI	0,073 mg/m3		0,073 mg/m3	
Skin	NPI	NPI	NPI	NPI	HIGH	NPI	HIGH	NPI

BENZYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	5				

TLV	CZE	40	8,88	80	17,76		
AGW	DEU	22	5	44	10	SKIN	11
NDS/NDSCh	POL	240					
MV	SVN	22	5	44	10	SKIN	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	1	mg/l
Normal value in marine water	0,1	mg/l
Normal value for fresh water sediment	5,27	mg/kg wwt
Normal value for marine water sediment	0,527	mg/kg wwt
Normal value for water, intermittent release	2,3	mg/l
Normal value of STP microorganisms	39	mg/l
Normal value for the terrestrial compartment	0,456	mg/kg wwt

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	20 mg/kg bw/d	VND	4 mg/kg bw/d				
Inhalation	VND	27 mg/m^3	VND	5,4 mg/m^3	VND	110 mg/m^3	VND	22 mg/m^3
Skin	VND	20 mg/kg bw/d	VND	4 mg/kg bw/d	VND	40 mg/kg bw/d		8 mg/kg bw/d

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Predicted no-effect concentration - PNEC		
Normal value in fresh water	11,1	µg/L
Normal value in marine water	1,11	µg/L
Normal value for fresh water sediment	4320	mg/kg
Normal value for marine water sediment	432	mg/kg/d
Normal value for water, intermittent release	111	µg/L
Normal value of STP microorganisms	10	mg/l
Normal value for the food chain (secondary poisoning)	1	mg/kg
Normal value for the terrestrial compartment	864	mg/kg/d
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	HIGH	NPI	HIGH	0.05 mg/kg bw/d				
Inhalation	HIGH	NPI	HIGH	0.074 mg/m3	HIGH	NPI	HIGH	0.493 mg/m3
Skin	HIGH	NPI	HIGH	0,05 mg/kg bw/d	HIGH	NPI	HIGH	0,14 mg/kg bw/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

When choosing risk management measures and operating conditions, consult the exposure scenarios attached.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

For information on controlling environmental exposure, see the exposure scenarios attached to this safety datasheet.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	Not coloured - light yellow	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	> 100 °C	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	> 100 °C	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	11	Method:<<Error>>Manca la traduzione (M05-1001) Remark:<<Error>>Manca la traduzione (N05-1001) Concentration: 1 % Temperature: 25 °C
Kinematic viscosity	>20,5 mm2/sec (40°C)	

Dynamic viscosity	250 mPa.s	Temperature: 25 °C
Solubility	soluble in organic solvents	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	1,01	Temperature: 25 °C
Relative vapour density	not available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	35,00 %	-	353,50	g/litre
VOC (volatile carbon)	27,18 %	-	274,56	g/litre
Explosive properties	not applicable			
Oxidising properties				

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F.Possibility of explosion.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

May react dangerously with: strong oxidising agents,concentrated inorganic acids.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid,iron,oxidising agents,sulphuric acid.Risk of explosion on contact with: phosphorus trichloride.

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Reacts with: epoxy compounds,isocyanates.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Avoid contact with: strong acids,strong oxidants.

BENZYL ALCOHOL

Avoid exposure to: air,sources of heat,naked flames.

10.5. Incompatible materials

BENZYL ALCOHOL

Incompatible with: sulphuric acid,oxidising substances,aluminium.

10.6. Hazardous decomposition products

Information not available

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

BENZYL ALCOHOL
Repeated dose subacute oral toxicity
Parameter: NOAEL (C) (BENZYL ALCOHOL; CAS No.: 100-51-6)
Route of exposure: Oral route
Species: Rat
Effective dose: 400 mg / kg bw / day
Repeated dose subacute inhalation toxicity
Parameter: NOAEL (C) (BENZYL ALCOHOL; CAS No.: 100-51-6)
Route of exposure: Inhalation
Species: Rat
Effective dose: 1072 mg / m3
Method: OECD 412.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	> 5 mg/l
ATE (Oral) of the mixture:	1259,32 mg/kg
ATE (Dermal) of the mixture:	Not classified (no significant component)

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

LD50 (Dermal):	> 2000 mg/kg rat OECD 402
LD50 (Oral):	1030 mg/kg simile a Linea Guida OECD 401
LC50 (Inhalation mists/powders):	> 5,01 mg/l/4h rat OECD 403

BENZYL ALCOHOL

LD50 (Dermal):	2000 mg/kg dw Rabbit
LD50 (Oral):	1620 mg/kg Rat
LC50 (Inhalation mists/powders):	> 4,178 mg/l/4h rat OECD 403

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

LD50 (Dermal):	2000 mg/kg rat
LD50 (Oral):	300 mg/kg rat

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Acute toxicity assessment:
Moderate toxicity after short skin contact. Moderate toxicity after single ingestion.
The European Union has classified the substance as 'harmful'.

SKIN CORROSION / IRRITATION

Corrosive for the skin

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Evaluation of the irritating effect:
Corrosive! Damages skin and eyes.
Experimental / calculated data:
Skin corrosion / irritation rabbit: Corrosive.
Serious eye damage / eye irritation rabbit: irreversible damage (OECD 405 guideline).

BENZYL ALCOHOL
Primary skin irritation
Dermal irritation (OECD 404): slightly irritating (Determined on rabbit skin)
Eye irritation
Eye irritation (OECD 405): irritant (Determined on rabbit eyes).

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Skin sensitization

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Evaluation of the sensitizing effect:
Sensitization possible after repeated contact.
Experimental / calculated data:
Guinea Pig Maximation Test guinea pig: skin sensitization (OECD - guideline 406).

BENZYL ALCOHOL
Sensitization: (Guinea Pig): negative.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Mutagenicity Assessment:
No mutagenic effects were found in various experiments on bacteria and mammals. The substance was not mutagenic in mammalian experiments.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Carcinogenicity Assessment:
Scientifically not justified study.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Carcinogenicity Assessment:
Scientifically not justified study.

Adverse effects on development of the offspring

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Animal tests did not show fetal damage.

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
The substance can damage the liver following repeated ingestion of large quantities, as shown by experiments on animals.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: >20,5 mm2/sec (40°C)

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Harmful (acute harmful) to aquatic organisms. The correct introduction of low concentrations into the biological purification plant should not compromise the degradation activity of the activated sludge.
Ichthyotoxicity:
EC50 (48 h) 388 mg / l, Chaetogammarus marinus (semi-static)
The indications of the toxic action refer to the nominal concentration.
Aquatic plants:
EC10 (72 h) 11.2 mg / l (growth rate), Scenedesmus subspicatus (Directive 88/302 / EEC, part C, p 89)
Nominal concentration.
Microorganisms / Effects on activated sludge:

EC10 (18 h) 1,120 mg / l, Pseudomonas putida (DIN 38412 part 8)
Nominal concentration.
Chronic toxicity to fish:
Scientifically not justified study.
Chronic toxicity to aquatic invertebrates:
NOEC (21 d) 3 mg / l, Daphnia magna (OECD - guideline 202, part 2, semi-static)
Nominal value (confirmed by concentration controls).
Terrestrial toxicity assessment:
Scientifically not justified study.
BENZYL ALCOHOL
Acute (short-term) toxicity to fish
Parameter: LC50
Species: Pimephales promelas
Effective dose: = 770 mg / l
Exposure time: 1 h
Parameter: LC50
Species: Pimephales promelas
Effective dose: 460 mg / l
Exposure time: 96 h
Acute (short-term) toxicity to daphnia
Parameter: EC50
Species: Daphnia magna
Effective dose: = 230 mg / l
Exposure time: 48 h.
Method: OECD 202
Parameter: EC50
Species: Daphnia magna
Effective dose: 66 mg / l
Exposure time: 21 days
Method: OECD 211
Chronic (long-term) toxicity to daphnia
Parameter: NOEC
Species: Daphnia magna (large water flea)
Effective dose: 51 mg / l
Exposure time: 21 days
Method: OECD 211
Acute (short-term) toxicity to algae
Parameter: EC50
Species: Pseudokirchneriella subcapitata
Effective dose: = 770 mg / l
Exposure time: 72 h
Method: OECD 201.
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
Acute toxicity to fish
LL50, Rainbow trout (Oncorhynchus mykiss), static test, 96 h, 70.7 mg / l, OECD Test Guideline 203
Acute toxicity to aquatic invertebrates
EL50, water flea Daphnia magna, static test, 48 h, 11.1 mg / l, OECD TG 202
Acute toxicity to algae / aquatic plants
EL50, Pseudokirchneriella subcapitata (green algae), static test, 72 h, Growth inhibition (cell density reduction), 79.4 mg / l, OECD Test Guideline 201
Toxicity to bacteria
EC50, activated sludge, aerobic, 3 h, Respiratory rates.,> 1 000 mg / l, activated sludge (Test OECD No. 209)

BENZYL ALCOHOL

LC50 - for Fish	> 100 mg/l/96h OECD SIDS
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna OECD SIDS
EC50 - for Algae / Aquatic Plants	770 mg/l/72h Pseudokirchneriella subcapitata

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

LC50 - for Fish	110 mg/l/96h Leuciscus idus
EC50 - for Algae / Aquatic Plants	> 50 mg/l/72h Scenedesmus subspicatus similar to OECD 201

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-

epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

EC50 - for Algae / Aquatic Plants	79,4 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	3,1 mg/l

12.2. Persistence and degradability

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Assessment of biodegradability and elimination (H2O):
Hardly biodegradable (according to OECD criteria).
Disposal considerations:
8% DOC reduction (28 d) (Directive 92/69 / EEC, C.4-A) (aerobic, mainly domestic waste)
Assessment of stability in water:
In contact with water, the substance hydrolyzes slowly.
Stability data in water (hydrolysis):
<10% (5 d) (50 ° C, pH value 7), (OECD guideline 111, p H 7).
BENZYL ALCOHOL
Parameter: Biodegradation (BENZYL ALCOHOL; CAS No.: 100-51-6)
Effective dose: 92 - 96%
Exposure time: 14 days
Method: OECD 301C / ISO 9408 / EEC 92/69 / V, C.4-F
Parameter: DOC reduction (BENZYL ALCOHOL; CAS No .: 100-51-6)
Effective dose: 95 - 97%
Exposure time: 21 days
Method: OECD 301A / ISO 7827 / EEC 92/69 / V, C.4-A
Easily biodegradable.

BENZYL ALCOHOL

Rapidly degradable

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Solubility in water	1000 - 10000 mg/l

NOT rapidly degradable

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Solubility in water	22,18 g/l pH 7-11

NOT rapidly degradable

12.3. Bioaccumulative potential

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Assessment of bioaccumulation potential:
Given the n-octanol / water partition coefficient (log Pow) a significant accumulation in organisms is not expected.
Bioaccumulation potential:
Based on the n-octanol / water partition coefficient (log Pow) accumulation in organisms is not to be expected. Indication from bibliography.
BENZYL ALCOHOL
Little bioaccumulative.

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Partition coefficient: n-octanol/water	0,99 @ 23 °C and pH 6.34

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Partition coefficient: n-octanol/water	3,6 Log Kow @ 25°C

12.4. Mobility in soil

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Transport evaluation between environmental departments:
Volatility: The substance does not evaporate into the atmosphere from the surface of the water.
Adsorption in the soil: Absorption to the solid phase of the soil is not foreseeable.

12.5. Results of PBT and vPvB assessment

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
According to Annex XIII of Regulation (EC) No.1907 / 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH): The product does not meet the requirements for classification as PBT (persistent / bioaccumulative / toxic) and vPvB (very persistent / very bioaccumulative). Self-classification.
On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Endocrine disrupting properties

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Adsorbable organic halogen compounds (AOX):
The product does not contain organic halogens.
Additional ecotoxicity information:
Due to the pH value of the product, the neutralization of residues is required before being placed in the purification plant. The correct introduction of low concentrations into the biological purification plant should not compromise the degradation activity of the activated sludge.
Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: 2735

14.2. UN proper shipping name

ADR / RID:	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE; 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
IMDG:	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE; 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
IATA:	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE; 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine)

14.3. Transport hazard class(es)

ADR / RID:	Class: 8	Label: 8
IMDG:	Class: 8	Label: 8
IATA:	Class: 8	Label: 8

14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 5 L	Tunnel restriction code: (E)
	Special provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 856
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 852
	Special provision:	A3, A803	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point	3

Contained substance

Point	75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Phenyl methanol

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Use descriptor system:

ERC	**7**	Use of functional fluid at industrial site
ERC	**8a**	Widespread use of non- reactive processing aid (no inclusion into or onto article, indoor)
ERC	**8b**	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC	**8c**	Widespread use leading to inclusion into/onto article (indoor)
ERC	**8d**	Widespread use of non- reactive processing aid (no inclusion into or onto article, outdoor)
ERC	**8f**	Widespread use leading to inclusion into/onto article (outdoor)
PC	**1**	Adhesives, sealants
PROC	**10**	Roller application or brushing
PROC	**5**	Mixing or blending in batch processes

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
03 / 08 / 11 / 12.

Exposure Scenarios

Substance	3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
Scenario Title	IPDA
Revision nr.	1
File	1

Substance	BENZYL ALCOHOL
Scenario Title	Alcool benzilico
Revision nr.	1
File	2