

Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

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

1.1. Product identifier

Product name **SAROPLAST T 250 B**
UFI Code: **TX80-K0KR-7004-FSTH**

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

Intended use **Epoxy hardener**

1.3. Details of the supplier of the safety data sheet

Name **Saro Srl**
Full address **Viale San Gimignano, 35**
District and Country **20146 Milano (MI)**
Italia
Tel. **+39 0331 453794**

e-mail address of the competent person responsible for the Safety Data Sheet

sales@sa.ro.it

1.4. Emergency telephone number

For urgent inquiries refer to

IRELAND: National Poisons Information Centre (NPIC): +353 1 8092166

MALTA: Medicines & poisons info Office 112

UK: National Health Service (NHS) (999 emergency call; 111 non-emergency call)

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department

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:

Physical and chemical hazards: the product is not classified for this hazard category.

Health hazards: the product may damage fertility. Harmful if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. May cause an allergic skin reaction.

Environmental hazards: the product is very toxic to aquatic life with long lasting effects

Reproductive toxicity, category 1B	H360F	May damage fertility.
Acute toxicity, category 4	H332	Harmful if inhaled.
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 1A	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 1	H410	Very 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:

Danger

SAROPLAST T 250 B

Hazard statements:

H360F May damage fertility.
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.
 Restricted to professional users.

Precautionary statements:

P261 Avoid breathing vapours.
P273 Avoid release to the environment.
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.
P280 Wear protective gloves and protective clothing, eye protection and face protection.
P310 Immediately call a POISON CENTER or a doctor

Contains:

4,4'-ISOPROPYLDENEDIPHENOL
 2,2'-DIAMINODIETHYLAMINE
 Trietine
 Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with tall oil fatty acids and triethylenetetramine

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage $\geq$ than 0,1%.
 The product contains substances with endocrine disrupting properties in concentration $\geq$ 0,1%:

4,4'-ISOPROPYLDENEDIPHENOL

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	Concentration %	Classification 1272/2008 (CLP)	Specific concentration limits 1272/2008 (CLP)
Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with tall oil fatty acids and triethylenetetramine INDEX -	25 - 50	Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1A H317, Aquatic Chronic 2 H411	Not applicable
EC 500-191-5 CAS 68082-29-1 REACH Reg. 01-2119972320-44-XXXX 2,2'-DIAMINODIETHYLAMINE INDEX 612-058-00-X	5 - < 10	Acute Tox. 2 H330, Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1B H317	Not applicable
EC 203-865-4 CAS 111-40-0 REACH Reg. 01-2119473793-27-XXXX Trietine		LD50 Oral: 1153 mg/kg, LD50 Dermal: 1045 mg/kg, LC50 Inhalation mists/powders: 0,071 mg/l/4h	

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixtureHAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products, for example COx, NOx, ammonia vapours and TiOx.

5.3. Advice for firefightersGENERAL 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**FOR NON-EMERGENCY PERSONNEL

Alert the personnel in charge of managing such emergencies. Move away from the accident area, if you are not equipped with the personal protective equipment listed in Section 8.

FOR EMERGENCY RESPONDERS

Move all inadequately equipped personnel away to deal with the emergency.

Wear personal protective equipment as set forth in section 8 of the safety data sheet in order to prevent contaminating skin, eyes and personal clothing. Stop the leak if there is no danger.

Allow workers to access the area affected by the accident only after appropriate decontamination is completed. Aerate the premises affected by the accident.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in 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, acids, bases and strong oxidant agents, see section 10 for details.

Storage class TRGS 510 (Germany):6.1A

7.3. Specific end use(s)

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No specific end uses are intended other than the relevant uses set out in Section 1.2 of this safety data sheet.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398;
		Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC;
	TLV-ACGIH	Directive 91/322/EEC. ACGIH 2023

2,2'-DIAMINODIETHYLAMINE
Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations	Critical effects
		mg/m3	ppm		
TLV-ACGIH		4,2	1	SKIN	Lower respiratory tract irritation.
Predicted no-effect concentration - PNEC					
Normal value in fresh water			0,56	mg/l	
Normal value in marine water			0,056	mg/l	
Normal value for fresh water sediment			1072	mg/kg	
Normal value for marine water sediment			107,2	mg/kg/d	
Normal value for water, intermittent release			0,32	mg/l	
Normal value of STP microorganisms			6	mg/l	
Normal value for the terrestrial compartment			7,97	mg/kg/d	

Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation		27.5 mg/m3		4.6 mg/m3	2.6 mg/m3	92.1 mg/m3	0.87 mg/m3	15.4 mg/m3
Skin		4.88 mg/kg bw/d		4.88 mg/kg bw/d			1.1 mg/cm²	11.4 mg/kg bw/d

Trientine Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation		1600 mg/m3		0,29 mg/m3		5380 mg/m3		1 mg/m3
Skin	1 mg/cm2	8 mg/kg bw/d	0,43 mg/cm2	0,25 mg/kg bw/d			28 µg/cm²	0,57 mg/kg bw/d

Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with tall oil fatty acids and triethylenetetramine

Predicted no-effect concentration - PNEC					
Normal value in fresh water			0,004	mg/l	
Normal value in marine water			0	mg/l	
Normal value for fresh water sediment			434,02	mg/kg	
Normal value for marine water sediment			43,4	mg/kg	
Normal value for water, intermittent release			0,043	mg/l	

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Normal value of STP microorganisms				3,84	mg/l			
Normal value for the terrestrial compartment				86,78	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				0.0972 mg/kg bw/d				
Inhalation				0.169 mg/m3				0,952 mg/m3
Skin				0,56 mg/kg bw/d				0.272 mg/kg bw/d

4,4'-ISOPROPYLIDENEDIPHENOL							
Threshold Limit Value							
Type	Country	TWA/8h		STEL/15min		Remarks / Observations	Critical effects
		mg/m3	ppm	mg/m3	ppm		
VLEP	ITA	2					
OEL	EU	2				INHAL	
Predicted no-effect concentration - PNEC							
Normal value in fresh water				0,023		mg/l	
Normal value in marine water				0,019		mg/l	
Normal value for fresh water sediment				1,2		mg/kg/d	
Normal value for marine water sediment				0,24		mg/kg/d	
Normal value for water, intermittent release				0,011		mg/l	
Normal value of STP microorganisms				320		mg/l	
Normal value for the terrestrial compartment				3,7		mg/kg/d	

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		0,004 mg/kg bw/d		0,004 mg/kg bw/d				
Inhalation	1 mg/m3	1 mg/m3	1 mg/m3	1 mg/m3	2 mg/m3	2 mg/m3	2 mg/m3	2 mg/m3
Skin		0,002 mg/kg bw/d		0,002 mg/kg bw/d		0,031 mg/kg bw/d		0,031 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.

8.2. Exposure controls

Considering that the use of adequate technical measures should always take priority over personal protective equipment, ensure good ventilation in the workplace through effective local aspiration.

When selecting personal protective equipment, seek advice from your chemical suppliers if necessary.

Personal protective equipment must bear the CE marking which certifies their compliance with current standards.

HAND PROTECTION

Protect your hands with category III work gloves, at least type B, resistant to compounds class A and G. Recommended material: florinated rubber.

For the final choice of work glove material (ref. standard EN 374) the following must be considered: compatibility, degradation, breaking time and permeation.

In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it cannot be foreseen. The gloves have a wear time that depends on the duration and method of use.

SKIN PROTECTION

Wear long-sleeved work clothes and category III professional safety footwear (ref. Reg. (EU) 2016/425 and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

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EYE PROTECTION

It is advisable to wear airtight protective goggles (ref. standard EN 166). Provide for an emergency shower with a visor basin.

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., AP.

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.

SECTION 9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Properties	Value	Information
Appearance	liquid	
Colour	cream	
Odour	Amine	
Melting point / freezing point	not available	
Initial boiling point	> 180 °C	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	> 130 °C	
Auto-ignition temperature	> 335 °C	
Decomposition temperature	not available	
pH	not available	
Kinematic viscosity	not available	
Solubility	not available	
Partition coefficient: n-octanol/water	not applicable	The product is a mixture
Vapour pressure	not applicable	The product is a mixture
Density and/or relative density	1,5 g/cm3	
Relative vapour density	not available	
Particle characteristics	not applicable	The product is a mixture

9.2. Other information**9.2.1. Information with regard to physical hazard classes**

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity**10.1. Reactivity**

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

4,4'-ISOPROPYLIDENEDIPHENOL

Reacts vigorously with acid anhydrides, acid chlorides, strong bases and strong oxidants.

10.2. Chemical stability

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

4,4'-ISOPROPYLIDENEDIPHENOL

At high temperatures it decomposes slowly into phenol and isopropenylphenol

10.3. Possibility of hazardous reactions

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

4,4'-ISOPROPYLIDENEDIPHENOL

It reacts violently with strong bases, acid chlorides and acid anhydrides in an exothermic reaction (INRS, 2013).
Finely dispersed particles form explosive mixtures in air (IPCS, 2011).

10.4. Conditions to avoid

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

4,4'-ISOPROPYLIDENEDIPHENOL

Exposure to air. Open flames.

10.5. Incompatible materials

Acids, bases and strong oxidant agents.

4,4'-ISOPROPYLIDENEDIPHENOL

Strong oxidants, strong bases, acid anhydrides and acid chlorides.

10.6. Hazardous decomposition products

By thermal decomposition, gases and vapors potentially harmful to health can be released, for example COx, NOx.

SECTION 11. Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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.

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

On the basis of available data and in view of the classification criteria set forth in table 3.2.3 of Annex I of (EC) Reg. 1272/2008 as amended, the product is classified, **Acute Tox.4, H332**.

ATE (Inhalation - mists / powders) of the mixture:	1,0 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

2,2'-DIAMINODIETHYLAMINE

LD50 (Dermal):	1045 mg/kg Coniglio
LD50 (Oral):	1153 mg/kg ratto
LC50 (Inhalation mists/powders):	0,071 mg/l/4h

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Trientine

LD50 (Dermal): 1465,4 mg/kg coniglio
LD50 (Oral): 1591,4 mg/kg ratto

Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with tall oil fatty acids and triethylenetetramine

LD50 (Dermal): > 2000 mg/kg ratto
LD50 (Oral): > 2000 mg/kg ratto

4,4'-ISOPROPYLIDENEDIPHENOL

LD50 (Dermal): 3000 mg/kg Rabbit
LD50 (Oral): 5000 mg/kg

SKIN CORROSION / IRRITATION

On the basis of available data and in view of the classification criteria set forth in table 3.2.3 of Annex I of (EC) Reg. 1272/2008 as amended, the product is classified as ***Skin corr 1B; H314.***

SERIOUS EYE DAMAGE / IRRITATION

On the basis of available data and in view of the classification criteria set forth in table 3.3.3 of Annex I of (EC) Reg. 1272/2008 as amended, the product is classified as ***Eye dam.1; H318.***

RESPIRATORY OR SKIN SENSITISATION

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is classified as ***Skin Sens.1A; H317***

GERM CELL MUTAGENICITY

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is not classified for this hazard class.

CARCINOGENICITY

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is not classified for this hazard class.

REPRODUCTIVE TOXICITY

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is classified as ***Repr.1B, H360F.***

STOT - SINGLE EXPOSURE

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is not classified for this hazard class.

STOT - REPEATED EXPOSURE

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is not classified for this hazard class.

ASPIRATION HAZARD

On the basis of available data and in view of the classification criteria of Annex I, Part 3 of (EC) Reg. 1272/2008 as amended, the product is not classified for this hazard class.

11.2. Information on other hazards

Based on the available data, the product contains the following endocrine disruptors in concentrations of 0.1% or greater by weight that may have endocrine disrupting effects on humans and cause adverse effects on the exposed individual or his or her progeny:

4,4'-ISOPROPYLIDENEDIPHENOL**SECTION 12. Ecological information****12.1. Toxicity**

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

Based on the evaluation of the classification of components and the classification provisions set out in Annex I, Part 4 of Reg. (EC)

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1272/2008 and subsequent amendments, the mixture is classified as environmentally hazardous **Aquatic Chronic 1; H410**.

2,2'-DIAMINODIETHYLAMINE

LC50 - for Fish	0,43 g/l/96h Poecilia reticulata
EC50 - for Crustacea	64,6 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	187 mg/l/72h
Chronic NOEC for Fish	> 10 mg/l Gasterosteus aculeatus
Chronic NOEC for Crustacea	32 mg/l Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	10 mg/l

**Fatty acids, C18-unsaturated, dimers,
oligomeric reaction products with tall oil
fatty acids and triethylenetetramine**

LC50 - for Fish	7,07 mg/l/96h Danio rerio
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4,4'-ISOPROPYLIDENEDIPHENOL

LC50 - for Fish	4,6 mg/l/96h Menidia menidia
EC50 - for Crustacea	10,2 mg/l/48h Daphnia magna

12.2. Persistence and degradability**4,4'-ISOPROPYLIDENEDIPHENOL**

Short-term effects

Marine fish (Cyprinodon variegatus): LC50-96 hours = 7.5 mg/l (measured conc.) (EU, 2010).

Freshwater fish (Pimephales promelas): LC50-96 hours = 4.6 mg/l (nominal conc.) (EU, 2010; HSDB, 2017; OECD, 2002).

Crustaceans (Mysidopsis bahia): LC50-96 hours = 1.1 mg/l (EU, 2010; HSDB, 2017; NITE, 2006; OECD, 2002)

Freshwater crustaceans (Daphnia magna): EC50-48 hours = 10.2 mg/l (measured conc.); 3.9 mg/l (conc. nominal) [effect: intoxication, immobilisation; polycarbonate grade, 99.93% purity] (EU, 2010; HSDB, 2017; OECD, 2002).

Freshwater algae (Pseudokirchneriella subcapitata): EC50-96 hours = 2.73 mg/l (effect: decrease of number of cells) (EU, 2010; HSDB, 2017; OECD, 2002).

Marine algae (Skeletonema subcapitata): EC50-96 hours = 1.1 mg/l (effect: decrease in the number of cells); 1.4 mg/l (restrained effect of chlorophyll) [method: according to OECD guidelines] (EU, 2010; HSDB, 2017; OECD, 2002).

Long term effects

Freshwater fish (Pimephales promelas): NOEC = 16 mg/l for egg hatching (full test of life cycle) (EU, 2010; OECD, 2002).

Based on the lowest NOEC value for fish a PNEC of 1.6 mg/l was derived using a factor score equal to 10. No effect on the growth of the larvae (OECD, 2002).

Freshwater crustaceans (Daphnia magna): NOEC-21 days > 3.146 mg/l (EU, 2010; OECD, 2002).

Freshwater algae (Pseudokirchneriella subcapitata): EC10-96 hours = 1.36 mg/l (EU, 2010).

Marine algae (Skeletonema costatum): EC10-96 hours = 0.40 mg/l (EU, 2010).

Effects on sexual development or differentiation have been reported for the African clawed frog (Xenopus laevis) at nominal concentrations up to 0.5 mg/l in a 90-day flow-through study (OECD, 2002)

2,2'-DIAMINODIETHYLAMINE

Solubility in water	Rapidly degradable 1000 - 10000 mg/l
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4,4'-ISOPROPYLIDENEDIPHENOL

Solubility in water	Rapidly degradable 301 mg/l
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12.3. Bioaccumulative potential**4,4'-ISOPROPYLIDENEDIPHENOL**

A BCF value in the range of 5.1 to 73.4 indicates a potential bioconcentration level between low and moderate (HSDB, 2018).

BCF

2,2'-DIAMINODIETHYLAMINE

Partition coefficient: n-octanol/water	-5,58
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4,4'-ISOPROPYLIDENEDIPHENOL

Partition coefficient: n-octanol/water	3,4
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12.4. Mobility in soil**4,4'-ISOPROPYLIDENEDIPHENOL**

Within a Koc value estimated in the range between 115 and 3886, bisphenol A can show a mobility in soil moderate to low (HSDB, 2018).

Does not volatilize from dry surfaces (HSDB, 2018).

It can adsorb to sediments and suspended solids (HSDB, 2018).

In the atmosphere it exists as particulate matter (HSDB, 2018).

The pKa of the substance is 9.6, indicating that it will exist partially in the anionic form in the environment (HSDB, 2018).

Anions generally do not adsorb more strongly than corresponding neutral compounds in soils containing organic carbon and clay (HSDB, 2018).

The partial dissociation of bisphenol A in different environmental matrices may be a reason for the extensive soil adsorption range observed, including on sediments and suspended solids (HSDB, 2018).

Based on the low vapor pressure value, Bisphenol A is poorly volatile from soil surfaces wet or dry (HSDB, 2018)

2,2'-DIAMINODIETHYLAMINE

Partition coefficient: soil/water 3,4

4,4'-ISOPROPYLIDENEDIPHENOL

Partition coefficient: soil/water 2,95

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

Based on the available data, the product contains the following endocrine disruptors in concentrations of 0.1% or greater by weight that may have endocrine disrupting effects on the environment and on animal species causing adverse effects on the exposed organisms or on their progeny:

4,4'-ISOPROPYLIDENEDIPHENOL**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: UN 1760

14.2. UN proper shipping name

ADR / RID: CORROSIVE LIQUID, N.O.S. (2,2'-iminodi(etilammina), 4,4'-isopropylidenediphenol)
IMDG: CORROSIVE LIQUID, N.O.S. (2,2'-iminodi(ethylamine), 4,4'-isopropylidenediphenol)
IATA: CORROSIVE LIQUID, N.O.S. (2,2'-iminodi(ethylamine), 4,4'-isopropylidenediphenol)

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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: II

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous

IMDG: Marine Pollutant

IATA: NO



For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID: HIN - Kemler: 80

IMDG: Special provision: 274
EMS: F-A, S-B

IATA: Cargo:

Passengers:

Special provision:

Limited
Quantities: 1
LLimited
Quantities: 1
L
Maximum
quantity: 30 LMaximum
quantity: 1 L

A3, A803

Tunnel
restriction
code: (E)Packaging
instructions:
855
Packaging
instructions:
851

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:

E1

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

Product

Point 3

Contained substance

Point 75

2,2'-DIAMINODIETHYLAMINE
REACH Reg.: 01-2119473793-27-
XXXX

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Point	75	Trientina REACH Reg.: 01-2119487919-1-XXXX
Point	30-66-75	4,4'-ISOPROPYLDENEDIPHENOL REACH Reg.: 01-2119457856-23-XXXX

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)

4,4'-ISOPROPYLDENEDIPHENOL
REACH Reg.: 01-2119457856-23-XXXX

Substances subject to authorisation (Annex XIV REACH)

None

Biocidal Products Regulation (Reg. (EU) 528/2012):

not applicable

Detergent regulations (Reg. (EC) 648/2004):

not applicable

Dir. 2004/42/EC - VOC/Italian Leg. Decr. 161/2006:

not applicable

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.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 3: Severe hazard to waters

15.2. Chemical safety assessment

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

2,2'-DIAMINODIETHYLAMINE

Trientine

Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with tall oil fatty acids and triethylenetetramine

4,4'-ISOPROPYLDENEDIPHENOL

SECTION 16. Other information

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

Repr. 1B	Reproductive toxicity, category 1B
Acute Tox. 2	Acute toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1

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Skin Sens. 1A	Skin sensitization, category 1A
Skin Sens. 1B	Skin sensitization, category 1B
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
H360F	May damage fertility.
H330	Fatal if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory 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.

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).
- A1 = Confirmed Human Carcinogen
- A2 = Suspected Human Carcinogen
- A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans
- A4 = Not Classifiable as a Human Carcinogen
- A5 = Not Suspected as a Human Carcinogen
- IBE = Biological Indicators of Exposure.

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

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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

CALCULATION METHODS

Chemical-physical hazards: the dangerousness has been derived from the classification criteria of CLP Regulation Annex I Part 2 as amended and added. Health hazards have been assessed with the calculation method set out by Reg. (EC) 1272/2008 (CLP) as amended and added for the classification of mixtures when data are available on all components of the mixture or some of them:

Acute Tox: application of criteria in Table 3.1.1. Annex I Part 3 of CLP Regulation as amended and added.

Skin Corr. 1A/1B/1C H314: application of additivity formula criteria in Table 3.2.3 Annex I Part 3 of CLP Regulation

Skin Irrit. 2 H315: application of additivity formula criteria in Table 3.2.3 Annex I Part 3 of CLP Regulation

Eye Dam. 1 H318: application of additivity formula criteria in Table 3.3.3 Annex I Part 3 of CLP Regulation

Eye Irrit. 2 H319: application of the additivity formula criteria in Table 3.3.3 Annex I Part 3 of CLP Regulation

Eye Irrit. 2 H319: table 3.3.3 of Annex I, Part 3 of Reg. (EC) 1272/2008 (CLP) as amended and added.

Skin Sens. 1A/1B/1 H317 Table 3.4.5 of Annex I, Part 3 of Reg. (EC) 1272/2008 (CLP) as amended and added.

Resp Sens. 1A/1B/1 H334 Table 3.4.5 of Annex I, Part 3 of Reg. (EC) 1272/2008 (CLP) as amended and added.

Muta. 1A/1B, 2 H340 - H341: table 3.5.2 Annex I Part 3 of CLP Regulation as amended and added.

Carc. 1A/1B, 2 H350 - H351: table 3.6.2 Annex I Part 3 of CLP Regulation as amended and added.

Repr. 1A/1B, 2 H360 - H361: table 3.7.2 Annex I Part 3 of CLP Regulation as amended and added.

STOT SE 1, 2 H370 - 371: application of the calculation methods - table 3.8.3 of Ann. I, Part 3 of Reg. (EC) 1272/2008 (CLP) as amended and added.

STOT SE 3 H336: ch. 3.8.3.4.5 of Annex I, Part 3 of Reg. (EC) 1272/2008 (CLP) as amended and added.

STOT RE 1, 2 H372 - H373: table 3.9.4 Annex I Part 3 of CLP Regulation as amended and added.

Asp Tox. 1 H304: application of criteria 3.10 Annex I Part 3 of CLP Regulation as amended and added

Environmental hazards have been assessed with the calculation method set out by Reg. (EC) 1272/2008 (CLP) as amended and added for the classification of mixtures when data are available on all components of the mixture or some of them:

toxicity for the aquatic environment acute effects: table 4.1.1 of Annex I, Part 4 of Reg. (EC) 1272/2008 (CLP) as amended and added;

toxicity for the aquatic environment chronic effects: table 4.1.2 of Annex I, Part 4 of Reg. (EC) 1272/2008 (CLP) as amended and added.

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.

Section modified to previous review: all