Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code:	**DRAP125**
Product name	**ARMOFIX MT COMP. B**

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

Intended use	**Two-component epoxy resin**

1.3. Details of the supplier of the safety data sheet

Name	**DRACO ITALIANA S.p.A.**
Full address	**Via Monte Grappa, 11 D-E**
District and Country	**20067 Tribiano (MI)** **Italia**
	Tel. +39 02.90632917
	Fax +39 02.90631976
e-mail address of the competent person responsible for the Safety Data Sheet	**info@draco-edilizia.it**

1.4. Emergency telephone number

For urgent inquiries refer to	**Centro Antiveleni di Bergamo 800883300 (Azienda Ospedaliera Papa Giovanni XXII)** **Centro Antiveleni di Firenze 0557947819 (Az. Osp. "Careggi" U.O. Tossicologia Medica)** **Centro Antiveleni di Foggia 80018345 (Az. Osp. Univ. Foggia)** **Centro Antiveleni di Milano 0266101029 (Osp. Niguarda Ca' Granda)** **Centro Antiveleni di Napoli 0817472870 (Az. Osp. "A. Cardarelli")** **Centro Antiveleni di Pavia 038224444 (CAV Centro Nazionale di Informazione Tossicologica)** **Centro Antiveleni di Roma 063054343 (CAV Policlinico "A. Gemelli")** **Centro Antiveleni di Roma 0649978000 (CAV Policlinico "Umberto I")** **Centro Antiveleni di Roma 06 68593726 (CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza e Accettazione DEA)**

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 2015/830. 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.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
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.

SECTION 2. Hazards identification ... / >>

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.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
P310	Immediately call a POISON CENTER / doctor / . . .
P264	Wash . . . thoroughly after handling.

Contains: Formaldehyde, polymer with benzenamine, hydrogenated
2-piperazin-1-iletilamina
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
4,4 Methylenebis (cyclohexylamine)

2.3. Other hazards

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

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia		
CAS *9046-10-0*	30 ≤ x < 50	**Skin Corr. 1C H314, Eye Dam. 1 H318, Aquatic Chronic 3 H412**
EC *618-561-0*		
INDEX		
Reg. no. *01-2119557899-12-XXXX*		
Alcol benzilico		
CAS *100-51-6*	10 ≤ x < 30	**Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Irrit. 2 H319**
EC *202-859-9*		
INDEX		
Reg. no. *01-2119492630-38-XXXX*		
Formaldehyde, polymer with benzenamine, hydrogenated		
CAS *135108-88-2*	10 ≤ x < 25	**Acute Tox. 4 H302, STOT RE 2 H373, Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Chronic 3 H412**
EC *603-894-6*		
INDEX		
Reg. no. *01-2119983522-33-XXXX*		

SECTION 3. Composition/information on ingredients ... / >>

2-piperazin-1-iletilamina

CAS	*140-31-8*	9 ≤ x < 25	**Acute Tox. 3 H311, Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Chronic 3 H412**
EC	*205-411-0*		
INDEX	*612-105-00-4*		
Reg. no.	*01-2119471486-30-XXXX*		

2,4,6-Tri-(dimetilaminometil) fenolo

CAS	*90-72-2*	1 ≤ x < 5	**Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315**
EC	*202-013-9*		
INDEX	*603-069-00-0*		
Reg. no.	*01-2119560597-27-XXXX*		

4,4 Methylenebis (cyclohexylamine)

CAS	*1761-71-3*	1 ≤ x < 3	**Acute Tox. 4 H302, STOT RE 2 H373, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317**
EC	*217-168-8*		
INDEX			
Reg. no.	*01-2119541673-38-XXXX*		

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 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

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, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,015	mg/l
Normal value in marine water	0,014	mg/l
Normal value for fresh water sediment	0,132	mg/kg/d
Normal value for marine water sediment	0,125	mg/kg/d
Normal value for water, intermittent release	0,15	mg/l
Normal value of STP microorganisms	7,5	mg/l
Normal value for the food chain (secondary poisoning)	6,93	mg/kg
Normal value for the terrestrial compartment	0,018	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
Inhalation						1,36 mg/m3		
Skin								2,5 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Alcol benzilico

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/d
Normal value for marine water sediment	0,527	mg/kg/d
Normal value for water, intermittent release	2,3	mg/l
Normal value of STP microorganisms	39	mg/l
Normal value for the terrestrial compartment	0,466	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		20 mg/kg bw/d		4 mg/kg bw/d				
Inhalation		27 mg/m3		5,4 mg/m3		110 mg/m3		22 mg/m3
Skin		20 mg/kg bw/d		4 mg/kg bw/d		40 mg/kg bw/d		8 mg/kg bw/d

2-piperazin-1-iletilamina

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,058	mg/l
Normal value in marine water	0,0058	mg/l
Normal value for fresh water sediment	215	mg/kg
Normal value for marine water sediment	21,5	mg/kg
Normal value for water, intermittent release	0,58	mg/l
Normal value of STP microorganisms	250	mg/l
Normal value for the terrestrial compartment	42,9	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		0,3 mg/kg bw/d				
Inhalation		5,3 mg/m3		0,9 mg/m3		21,4 mg/m3		3,6 mg/m3
Skin	0,02 mg/cm2	10 mg/kg bw/d	0,003 mg/cm2	1,7 mg/kg bw/d	0,04 mg/cm2	20 mg/kg bw/d	0,006 mg/cm2	3,3 mg/kg bw/d

4,4 Methylenebis (cyclohexylamine)

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,08	mg/l
Normal value in marine water	0,008	mg/l
Normal value for fresh water sediment	137	mg/kg/d
Normal value for marine water sediment	13,7	mg/kg/d
Normal value for water, intermittent release	0,08	mg/l
Normal value of STP microorganisms	3,2	mg/l
Normal value for the terrestrial compartment	27,2	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				0,06 mg/kg bw/d				
Inhalation				0,21 mg/m3				1 mg/m3
Skin								0,1 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

2,4,6-Tri-(dimetilaminometil) fenolo		
Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,084	mg/l
Normal value in marine water	0,0084	mg/l

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

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.
Provide an emergency shower with face and eye wash station.
Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).
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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		Value	Information
Appearance		liquid	
Colour		transparent white	
Odour		characteristic	
Odour threshold		Not available	
pH		Not determined	
Melting point / freezing point		Not available	
Initial boiling point		Not available	
Boiling range		Not available	
Flash point	>	60 °C	
Evaporation rate		Not available	
Flammability (solid, gas)		Not available	
Lower inflammability limit		Not available	
Upper inflammability limit		Not available	
Lower explosive limit		Not available	
Upper explosive limit		Not available	
Vapour pressure		Not available	
Vapour density		Not available	
Relative density		1,1 g/cm3	
Solubility		not applicable	

SECTION 9. Physical and chemical properties ... / >>

Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 37,00 % - 407,00 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

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

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.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

Formaldehyde, polymer with benzenamine, hydrogenated
Organic decomposition products containing nitrogen. carbon monoxide, carbon dioxide

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 toxicological effects

Alcol benzilico
Inhalation: Vapor may irritate the respiratory tract / lungs. Vapors can irritate the throat / respiratory tract. Symptoms following overexposure may include the following: Cough. Vapors can cause headache, fatigue, dizziness and nausea. Harmful by inhalation.
Ingestion: Harmful if swallowed. Nausea, vomiting. Diarrhea. Headache. The ingestion of large quantities can cause unconsciousness.
Skin contact: Prolonged and frequent contact may cause redness and irritation.
Eye contact: Causes serious eye irritation.

2-piperazin-1-iletilamina
Inhalation: Gases or vapors in high concentrations can irritate the respiratory tract.
Ingestion: Harmful if swallowed.
Skin contact: Causes severe burns. Toxic in contact with the skin. May cause an allergic skin reaction.
Contact with eyes: Causes serious eye damage.

4,4 Methylenebis (cyclohexylamine)
Inhalation: Gas or vapor in high concentrations may irritate the respiratory tract.
Ingestion: Harmful if swallowed. It can cause burns in mucous membranes, in the throat, in the esophagus and in the stomach. May cause damage to organs (Liver) in case of prolonged or repeated exposure if swallowed.
Skin contact: Causes severe burns. May cause sensitization by skin contact.
Eye contact: Causes serious eye damage.

SECTION 11. Toxicological information ... / >>

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:	> 20 mg/l
ATE (Oral) of the mixture:	923,22 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

LD50 (Oral)	2885,3 mg/kg Rat. OECD 401
LD50 (Dermal)	2979,7 mg/kg Rabbit, OECD 402
LC50 (Inhalation)	> 0,74 mg/l/8h Rat. OECD 403

Alcol benzilico

LD50 (Oral)	1620 mg/kg Ratto
LD50 (Dermal)	2001 mg/kg Ratto
LC50 (Inhalation)	11 mg/l Ratto

Formaldehyde, polymer with benzenamine, hydrogenated

LD50 (Oral)	> 1000 mg/kg Rat
LD50 (Dermal)	2001 mg/kg Rabbit

4,4 Methylenebis (cyclohexylamine)

LD50 (Oral)	625 mg/kg Rat
LD50 (Dermal)	2110 mg/kg Rabbit

2,4,6-Tri-(dimetilaminometil) fenolo

LD50 (Oral)	2169 mg/kg

2-piperazin-1-iletilamina

LD50 (Oral)	500 mg/kg
LD50 (Dermal)	866 mg/kg Rat

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Repeated dose toxicity Product:
Species: Rat, male and female
NOAEL:> 250 mg / kg
Application method: Dermal
Exposure time: 90 Days Exposure number: 5 d Next observation period: 28 days
Method: Subchronic toxicity

Species: Rat, male and female
NOAEL:> 239 mg / kg
Application method: oral (food)
Exposure time: 31 Days Method: Subacute toxicity

Species: Rat, male and female
NOAEL: 100 mg / kg
Application method: Dermal
Exposure time: 28 Days Exposure number: 5 d Method: Subacute toxicity

SECTION 11. Toxicological information ... / >>

Alcol benzilico
Repeated dose toxicity
Species: rat, male and female
NOEX: 400 mg / kg, 1072
Method of application: inhalation
Atomosphere test: dust / fog
Exposure time: 4 w
Number of exhibitions: 6 h
Method: OECD 412

SKIN CORROSION / IRRITATION

Corrosive for the skin

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Species: Rabbit
Method: Guideline 404 for the OECD Test
Result: Corrosive after 1 to 4 hours of exposure

Formaldehyde, polymer with benzenamine, hydrogenated
The substance was corrosive in an in vitro Corrositex test. Signs of irritation / corrosivity were also observed in acute oral and dermal toxicity tests with this material and in tests with similar substances.

Alcol benzilico
Species: rabbit
Assessment: no skin irritation
Method: OECD 404

2-piperazin-1-iletilamina
Corrosive to the skin.

4,4 Methylenebis (cyclohexylamine)
Corrosive to the skin.

2,4,6-Tri-(dimetilaminometil) fenolo
Corrosive to the skin.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Species: Rabbit Evaluation: Corrosive Method: Guideline 405 for the OECD Test Result: Irreversible effects on the eyes

Alcol benzilico
Species: rabbit
Evaluation: irritating
Method: OECD 405
Result: irritating to the eyes

2-piperazin-1-iletilamina
Causes serious eye damage.

4,4 Methylenebis (cyclohexylamine)
Risk of serious eye damage.

2,4,6-Tri-(dimetilaminometil) fenolo
Causes serious eye damage.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

2,4,6-Tri-(dimetilaminometil) fenolo
Skin sensitizer.

Skin sensitization

SECTION 11. Toxicological information ... / >>

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Route of exposure: Skin Species: Guinea pig Result: Does not cause skin sensitization.

Alcol benzilico
Species: Guinea pig
Method: OECD 406
Result: Not sensitizing.

Species: Guinea pig
Result: does not cause skin sensitization

4,4 Methylenebis (cyclohexylamine)
Sensitizing.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Genotoxicity in vitro
Concentration: 0 - 10000 ug / plate Metabolic activation: with or without metabolic activation Method: Guideline 471 for the OECD Test Result: negative

Metabolic activation: with or without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo
Application method: Oral Doses: 500 mg / kg Method: OECD Test Guideline 474 Result: negative

Alcol benzilico
Method of application: intraperitoneal injection
Dose: 200 mg / kg
Method: OECD 474
Result: negative

4,4 Methylenebis (cyclohexylamine)
Genotoxicity - in vitro Ames test: Negative.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Alcol benzilico
NOAEL 200 mg / kg / day, Oral, Mouse OECD 453
NOAEL> 400 mg / kg bw / day, Oral, Rat OECD 451 Based on available data the classification criteria are not met.
NOALE: 400 mg / kg, oral, Rat (103 weeks of exposure, 5 times a day). Method: OECD 453

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Alcol benzilico
Based on available data, the classification criteria are not met. Fertility - NOAEL 1072 mg / kg bw / day, Inhalation, Rat

Species: mouse, female
Method of application: oral
General toxicity in mothers: lowest observed toxicity level: 550 mg / kg bw
Result: no teratogenic effect

Adverse effects on sexual function and fertility
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Species: Rat, male and female Application method: Dermal Method: Guideline 421 for the OECD Test Result: Animal tests did not result in fertility effects.

SECTION 11. Toxicological information ... / >>

2-piperazin-1-iletilamina
Contiene una sostanza/un gruppo di sostanze che possono nuocere alla fertilità.

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

May cause damage to organs

Formaldehyde, polymer with benzenamine, hydrogenated
NOAEL 15 mg / kg bw / day, Oral, Rat

Alcol benzilico
NOAEL 400 mg / kg, Oral, Rat

Species: rat, male and female
NOEC: 400 mg / kg
Method of application: inhalation
Test atmosphere: dust / fog
Exposure time: 4 w
Exposure number: 6 h
Method: OECD 412

4,4 Methylenebis (cyclohexylamine)
May cause damage to organs (Liver) in case of prolonged or repeated exposure if swallowed.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Toxicity to fish
EC50 (Oncorhynchus mykiss (rainbow trout)):> 15 mg / l Exposure time: 96 h Type of test: Semi-static test Substance to be tested: Fresh water Method: Guideline 203 for the OECD Test LC50: 772.14 mg / l Exposure time: 96 h Type of test: Static test Test substance: Seawater Method: OECD Test Guideline 203

Toxicity for aquatic invertebrates
EC50 (Daphnia magna (Water flea)): 80 mg / l Exposure time: 48 h Type of test: Static test Substance to be tested: Fresh water Method: OECD TG 202 EC50 (Acartia tonsa): 418.34 mg / l Exposure time: 48 h Type of test: Static test Substance to be tested: Sea water

Toxicity for algae / aquatic plants
CE50r (Selenastrum capricornutum (green alga)): 15 mg / l Exposure time: 72 h Type of test: Static test Substance to be tested: Fresh water Method: OECD TG 201

Formaldehyde, polymer with benzenamine, hydrogenated
Acute toxicity microorganisms - EC50, 3 hours: 187 mg / l, activated sludge

Alcol benzilico
It is not considered toxic to fish.
LC50, 96 hours: 10 mg / l, Lepomis macrochirus (Perch)
Acute toxicity microorganisms - CI50, 49 hours: 2100 mg / l, activated sludge

4,4 Methylenebis (cyclohexylamine)
CL0, 96 hours: 46 mg / L, Leuciscus idus (golden Ido)
EC50, 72 hours: 140 - 200 mg / L, Algae

SECTION 12. Ecological information ... / >>

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

LC50 - for Fish	> 15 mg/l/96h Oncorhynchus mykiss. OECD 203, semisatic test
EC50 - for Crustacea	80 mg/l/48h Daphnia magna. OECD 202
EC50 - for Algae / Aquatic Plants	15 mg/l/72h Selenastrum capricornutum, OECD 201

Alcol benzilico

LC50 - for Fish	460 mg/l/96h Pimephales promelas, OECD 203
EC50 - for Crustacea	230 mg/l/48h Daphnia magna, OECD 202
EC50 - for Algae / Aquatic Plants	770 mg/l/72h Selenastrum capricornutum, OECD 201, static test
Chronic NOEC for Crustacea	51 mg/l Daphnia magna, 21 d, OECD 211, semistatic test
Chronic NOEC for Algae / Aquatic Plants	310 mg/l Pseudokirchneriella subcapitata, OECD 201

Formaldehyde, polymer with benzenamine, hydrogenated

LC50 - for Fish	63 mg/l/96h Poecilia reticulata
EC50 - for Crustacea	15,4 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	43,9 mg/l/72h Algae

4,4 Methylenebis (cyclohexylamine)

LC50 - for Fish	> 100 mg/l/96h Leuciscus idus
EC50 - for Crustacea	6,84 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 140 mg/l/72h
Chronic NOEC for Crustacea	4 mg/l Daphnia magna, 604 h

2,4,6-Tri-(dimetilaminometil) fenolo

LC50 - for Fish	964 mg/l/96h

2-piperazin-1-iletilamina

LC50 - for Fish	2190 mg/l/96h
EC50 - for Crustacea	58 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h Algae

12.2. Persistence and degradability

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
biodegradation
Inoculum: Mixture Result: Not biodegradable. Biodegradation: 0% Exposure time: 28 d Method: OECD TG 301 B

Stability in water
Half-life for degradation (TD50): 12 Months (25 ° C) pH: 6.5 Method: No information available. Observations: Fresh water

Alcol benzilico
Degradation 92 - 96%: 14 days OECD 301C
Degradation 95 - 97%: 21 days OECD 301A

Inoculum: waste water (STP outflow)
Concentration: 20mg / l
Result: rapidly biodegradable
Biodegradation: 95-97%
Exposure time: 21 d
Method: OECD 301 A

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Solubility in water	100 g/l

Alcol benzilico
Rapidly degradable

Formaldehyde, polymer with benzenamine, hydrogenated
NOT rapidly degradable

4,4 Methylenebis (cyclohexylamine)
NOT rapidly degradable

2-piperazin-1-iletilamina
NOT rapidly degradable

SECTION 12. Ecological information ... / >>

12.3. Bioaccumulative potential

4,4 Methylenebis (cyclohexylamine)
The product is insoluble in water.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Partition coefficient: n-octanol/water 1,34 Log Kow 25°C

Alcol benzilico
Partition coefficient: n-octanol/water 1,1
BCF 1

4,4 Methylenebis (cyclohexylamine)
Partition coefficient: n-octanol/water 2,03

2,4,6-Tri-(dimetilaminometil) fenolo
Partition coefficient: n-octanol/water -0,66 Log Kow 21,5°C

2-piperazin-1-iletilamina
Partition coefficient: n-octanol/water -1,48 Log Kow

12.4. Mobility in soil

Alcol benzilico
Surface tension 39 mN / m @ 20 ° C OECD 115
Koc: 5-15

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 ≥ than 0,1%.

12.6. 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

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. MIXTURE
IMDG: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. MIXTURE
IATA: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. MIXTURE

SECTION 14. Transport information ... / >>

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:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 1 L	Tunnel restriction code: (E)
	Special provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 30 L	Packaging instructions: 855
	Pass.:	Maximum quantity: 1 L	Packaging instructions: 851
	Special provision:	A3, A803	

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

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/EC: 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	2-piperazin-1-iletilamina Reg. no.: 01-2119471486-30-XXXX
Point	75	2,4,6-Tri-(dimetilaminometil) fenolo Reg. no.: 01-2119560597-27-XXXX

Regulation (EC) No. 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 (EC) Reg. 649/2012:
None

Substances subject to the Rotterdam Convention:
None

SECTION 15. Regulatory information ... / >>

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
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia
Formaldehyde, polymer with benzenamine, hydrogenated
Alcol benzilico
4,4 Methylenebis (cyclohexylamine)

SECTION 16. Other information

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

Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Skin Corr. 1C	Skin corrosion, category 1C
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 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 NUMBER: 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: EC Regulation 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 STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds

SECTION 16. Other information ... / >>

- 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) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 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) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Regulation (EU) 2020/217 (XIV 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:
09 / 14.