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

Code: **PF/EPAMINE PC 19**
Product name **EPAMINE PC 19**

UFI : **KGE5-V290-T00F-76WT**

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

Identified Uses	Industrial	Professional	Consumer
Hardening for epoxy resin	✓	✓	-

Uses Advised Against
All uses not indicated among the recommended uses

1.3. Details of the supplier of the safety data sheet

Name **PO.INT.ER. S.R.L.**
Full address **Via Fontanelle 18**
District and Country **14017 Valfenera (AT)**
Italia
Tel. +39.0141.939214
Fax +39.0141.681.021

e-mail address of the competent person responsible for the Safety Data Sheet **lab@pointersrl.it**

1.4. Emergency telephone number

For urgent inquiries refer to **NHS 111 online - phone 111**
(England) - https://111.nhs.uk/
(Northern Ireland) - https://www.nidirect.gov.uk/
(Scotland) - NHS 24 - https://www.nhs24.scot/
(Wales) - https://111.wales.nhs.uk/

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:

Reproductive toxicity, category 1B	H360F	May damage fertility.
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 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:



SECTION 2. Hazards identification ... / >>

Signal word: Danger

Hazard statements:

H360F	May damage fertility.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.
	Restricted to professional users.

Precautionary statements:

P260	Do not breathe dust.
P201	Obtain special instructions before use.
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: Take off immediately all contaminated clothing. Rinse skin with water.
P280	Wear protective protective clothing and eye protection.
P310	Immediately call a POISON CENTER.

Contains:
4,4'-isopropylidenediphenol
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
m-phenylenebis(methylamine)
3-aminomethyl-3,5,5-trimethylcyclohexylamine
benzyl alcohol

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 contains substances with endocrine disrupting properties in concentration ≥ 0,1%:
4,4'-isopropylidenediphenol

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification (EC) 1272/2008 (CLP)
benzyl alcohol			
INDEX	*603-057-00-5*	45 ≤ x < 50	**Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Sens. 1B H317**
EC	*202-859-9*		**LD50 Oral: 1200 mg/kg**
CAS	*100-51-6*		
REACH Reg.	*01-2119492630-38*		
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine			
INDEX		30 ≤ x < 35	**Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Chronic 3 H412**
EC	*500-101-4*		
CAS	*38294-64-3*		
REACH Reg.	*01-2119965165-33*		
m-phenylenebis(methylamine)			
INDEX		10 ≤ x < 12,5	**Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1B H317, Aquatic Chronic 3 H412, EUH071**
EC	*216-032-5*		**LD50 Oral: 930 mg/kg, ATE Inhalation mists/powders: 1,5 mg/l**
CAS	*1477-55-0*		
REACH Reg.	*01-2119480150-50*		
3-aminomethyl-3,5,5-trimethylcyclohexylamine			
INDEX	*612-067-00-9*	5 ≤ x < 7,5	**Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1A H317**
EC	*220-666-8*		**Skin Sens. 1A H317: ≥ 0,001%**
CAS	*2855-13-2*		**LD50 Oral: 1030 mg/kg**

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

REACH Reg. *01-2119514687-32*
4,4'-isopropylidenediphenol
INDEX *604-030-00-0* 2 ≤ x < 2,5 **Repr. 1B H360F, Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=10**
EC *201-245-8*
CAS *80-05-7*
REACH Reg. *01-2119457856-23*

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

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Rinse your mouth with running water. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

ACUTE EFFECTS
EYES: irritation, redness, corneal damage.
SKIN: irritation, redness, allergic reaction, chemical burns.
INHALATION: irritation, redness, chemical burns.
INGESTION: may be harmful.

DELAYED EFFECTS
SKIN: allergic contact dermatitis.

H360F May damage fertility.

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

Immediately call a POISON CENTER.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

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.

SECTION 5. Firefighting measures ... / >>

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.

Storage class TRGS 510 (Germany): 6.1C

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

CZE	Česká Republika	NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe
ESP	España	Límites de exposición profesional para agentes químicos en España 2024
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről

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

ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55
NLD	Nederland	Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431
PRT	Portugal	Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
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; Directive 91/322/EEC.
	ACGIH	ACGIH 2025

benzyl alcohol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	40	8,88	80	17,76	
AGW	DEU	22	5	44	10	SKIN 11
MAK	DEU	22	5	44	10	SKIN
NDS/NDSCh	POL	240				

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
Normal value for marine water sediment	0,527	mg/kg
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

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

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

m-phenylenebis(methylamine)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	FRA			0,1		
TLV	NOR			0,1 (C)		
ACGIH				0,1 (C)		SKIN

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,094	mg/l
Normal value in marine water	0,009	mg/l
Normal value for fresh water sediment	12,4	mg/kg
Normal value for marine water sediment	1,24	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	2,44	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		NPI				
Inhalation	NPI	NPI	NPI	NPI	MED	NPI	0,2 mg/m3	1,2 mg/m3
Skin	NPI	NPI	NPI	NPI	MED	NPI	MED	0,33 mg/kg bw/d

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

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			0,526	0,3 mg/kg bw/d				
Inhalation	20,1	20,1	0,526	0,526	20,1 mg/m3	20,1 mg/m3	0,073 mg/m3	0,073

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	0,011	mg/l
Normal value in marine water	0,001	mg/l
Normal value for fresh water sediment	4320	mg/kg
Normal value for marine water sediment	432	mg/kg
Normal value for marine water, intermittent release	0,111	mg/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
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	74,0 µg/m³	HIGH	NPI	HIGH	0,493 mg/m3
Skin		NPI		0,05 mg/kg bw/d	HIGH	NPI	HIGH	0,14 mg/kg bw/d

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

4,4'-isopropylidenediphenol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	2		5		INHAL
AGW	DEU	2		5		INHAL
MAK	DEU	5		5		INHAL
VLA	ESP	2				
VLEP	FRA	2				
AK	HUN	2				
VLEP	ITA	2				INHAL
TLV	NOR	2				
TGG	NLD	2				INHAL
VLE	PRT	2				INHAL
NDS/NDSCh	POL	2				INHAL
TLV	ROU	2				INHAL
WEL	GBR	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
Normal value for marine water sediment	0,24	mg/kg
Normal value for marine water, intermittent release	0,011	mg/l
Normal value of STP microorganisms	320	mg/l
Normal value for the food chain (secondary poisoning)	NEA	
Normal value for the terrestrial compartment	3,7	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		0,053 mg/kg bw/d		0,053 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	MED	0,024 mg/kg bw/d	MED	0,024 mg/kg bw/d	MED	0,066 mg/kg bw/d	MED	0,066 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.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
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.
Protect your hands with gloves of the following type:
Material: Butyl rubber (IIR)
The following should be considered when choosing work glove material: compatibility, degradation, permeability time.
Thickness: 0,5 mm
Breakthrough time: 60 min
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 ISO 16321).
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.

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

RESPIRATORY PROTECTION
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. 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).
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		
Odour		characteristic		
Melting point / freezing point		not available		Reason for missing data:not relevant for the characterization of the product
Initial boiling point	>	190	°C	
Flammability		not flammable		Reason for missing data:The substance/mixture does not have flammable/explosive properties
Lower explosive limit		not available		Reason for missing data:The substance/mixture does not have flammable/explosive properties
Upper explosive limit		not available		Reason for missing data:The substance/mixture does not have flammable/explosive properties
Flash point	>	93	°C	
Auto-ignition temperature		not applicable		Reason for missing data:The substance/mixture does not have flammable/explosive properties
Decomposition temperature		not determined		Reason for missing data:The substance/mixture does not have flammable/explosive properties
pH		not applicable		Reason for missing data:substance/mixture is non-soluble (in water)
Kinematic viscosity		91,7 - 275,2 mm2/s		Temperature: 25 °C
Dynamic viscosity		100 - 300 mPa*s		Method:Brookfield Temperature: 25 °C
Solubility		insoluble in water		
Partition coefficient: n-octanol/water		not applicable		Reason for missing data:The product is a mixture
Vapour pressure		not available		Reason for missing data:not relevant for the characterization of the product
Density and/or relative density		1,09	g/ml	Temperature: 20 °C
Relative vapour density		not available		Reason for missing data:not relevant for the characterization of the product
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

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.

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.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
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.

benzyl alcohol
May react dangerously with: hydrobromic acid,iron,oxidising agents,sulphuric acid.Risk of explosion on contact with: phosphorus trichloride.
3-aminomethyl-3,5,5-trimethylcyclohexylamine
May react with: acids,strong oxidising agents,halogenated compounds.
May develop: Strong exothermic reaction..

10.4. Conditions to avoid

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

m-phenylenebis(methylamine)
Avoid exposure to: sources of heat,overheated surfaces,sparks,naked flames,ignition sources.
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Avoid exposure to: naked flames,ignition sources,sources of heat.

10.5. Incompatible materials

benzyl alcohol
Incompatible with: sulphuric acid,oxidising substances,aluminium.
m-phenylenebis(methylamine)
Avoid contact with: acids,Comburitant substances,reducing substances.
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Avoid contact with: acids,oxidising substances,halogenated compounds.

10.6. Hazardous decomposition products

3-aminomethyl-3,5,5-trimethylcyclohexylamine
In decomposition develops: carbon oxides,nitric oxide,nitrous gases.

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

SECTION 11. Toxicological information ... / >>

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture: > 5 mg/l
ATE (Oral) of the mixture: 1602,84 mg/kg
ATE (Dermal) of the mixture: Not classified (no significant component)

Corrosive to the respiratory tract.

benzyl alcohol
LD50 (Dermal): 2000 mg/kg (rabbit)
LD50 (Oral): 1200 mg/kg (rat)
LC50 (Inhalation mists/powders): > 4,178 mg/l/4h (OECD 403 - rat)

m-phenylenebis(methylamine)
LD50 (Dermal): > 3100 mg/kg (similar OECD TG 402 - rat)
LD50 (Oral): 930 mg/kg (OECD TG 401 - rat)
LC50 (Inhalation mists/powders): 1,34 mg/l (OECD TG 403 - rat)
It is not classified as acutely toxic (cutaneous route).
Harmful if ingested.
Harmful if inhaled.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
LD50 (Dermal): 2000 mg/kg (OECD 402 - rat)
LD50 (Oral): 1030 mg/kg (OECD 401 - rat)
LC50 (Inhalation mists/powders): 5,01 mg/l/4h (OECD 403 - rat)

4,4'-isopropylidenediphenol
LD50 (Dermal): 3000 mg/kg (EU RAR 2003 - rabbit)
LD50 (Oral): 4100 mg/kg (OECD 401 - rat)

SKIN CORROSION / IRRITATION

Corrosive for the skin

m-phenylenebis(methylamine)
Causes severe skin burns and serious eye damage.
(EU method B.4)

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

m-phenylenebis(methylamine)
Causes serious eye damage.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

m-phenylenebis(methylamine)
May cause an allergic skin reaction.
(OECD Guideline 429)

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

m-phenylenebis(methylamine)
It is not classified as a germ cell mutagen.
(OECD Guideline 471, OECD Guideline 473, OECD Guideline 474, OECD Guideline 476)

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>

m-phenylenebis(methylamine)
Based on available data, the classification criteria are not met.

REPRODUCTIVE TOXICITY

May damage fertility

m-phenylenebis(methylamine)
It is not classified as a reproductive toxicant.
(OECD Guideline 414, OECD Guideline 421)

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

m-phenylenebis(methylamine)
Based on available data, the classification criteria are not met.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

m-phenylenebis(methylamine)
Based on available data, the classification criteria are not met.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

m-phenylenebis(methylamine)
It is not classified as dangerous in case of aspiration.

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
m-phenylenebis(methylamine)
Corrosive through the respiratory tract.

SECTION 12. Ecological information

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

12.1. Toxicity

benzyl alcohol

LC50 - for Fish	100 mg/l/96h (OECD 203 - Oryzias latipes)
EC50 - for Crustacea	230 mg/l/48h (OECD 202 - Daphnia magna)
EC50 - for Algae / Aquatic Plants	759 mg/l/72h (OECD 201 - Raphidocelis subcapitata)
EC10 for Algae / Aquatic Plants	556 mg/l/72h (OECD 201 - Raphidocelis subcapitata)
Chronic NOEC for Crustacea	51 mg/l/21d (OECD 211 - Daphnia magna)

m-phenylenebis(methylamine)

LC50 - for Fish	87,6 mg/l/96h (OECD 203 - Oryzias latipes)
EC50 - for Crustacea	15,2 mg/l/48h (OECD 202 - Daphnia magna)
EC50 - for Algae / Aquatic Plants	20,3 mg/l/72h (OECD 201 - Pseudokirchneriella subcapitata)
Chronic NOEC for Crustacea	4,7 mg/l/21d (OECD 211 - Daphnia magna)
Chronic NOEC for Algae / Aquatic Plants	10,5 mg/l (OECD 201 - Pseudokirchneriella subcapitata)

3-aminomethyl-3,5,5-trimethylcyclohexylamine

LC50 - for Fish	110 mg/l/96h (EU C.1 - Leuciscus idus)
EC50 - for Crustacea	23 mg/l/48h (OECD 202 - Daphnia magna)
EC50 - for Algae / Aquatic Plants	50 mg/l/72h (EU C.3 - Desmodesmus subspicatus)
EC10 for Algae / Aquatic Plants	11,2 mg/l/72h (EU C.3 - Desmodesmus subspicatus)
Chronic NOEC for Crustacea	3 mg/l (OECD 202, part 2 - Daphnia magna)

Harmful (acute harm) for aquatic organisms. The correct entry of low concentrations in the biological purification system should not

SECTION 12. Ecological information ... / >>

compromise the degradation of active sludge.

4,4'-isopropylidenediphenol

LC50 - for Fish	4,6 mg/l/96h (ASTM E729-80 - Pimephales promelas)
EC50 - for Crustacea	10,2 mg/l/48h (E729-80 - Daphnia magna)
EC50 - for Algae / Aquatic Plants	3,1 mg/l/96h (EPA-600/9-78-018 - Raphidocelis subcapitata)
LC10 for Fish	0,089 mg/l (EPA OPP 72-5 - Pimephales promelas)
EC10 for Algae / Aquatic Plants	2,1 mg/l/72h (OECD 201 - Raphidocelis subcapitata)
Chronic NOEC for Crustacea	0,37 mg/l (EPA OPPTS 850.1350 - Americamysis bahia)

12.2. Persistence and degradability

benzyl alcohol

Rapidly degradable	92% / 14d, OECD 301C

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 (OECD 105)
NOT rapidly degradable	0% / 28d . OECD 301F

m-phenylenebis(methylamine)

Solubility in water	100 g/l (OECD 105)
NOT rapidly degradable	49% / 28d . OECD 301B

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Solubility in water	492 g/l (OECD 105)
NOT rapidly degradable	8% / 28d . EU C.4-A

Evaluation of biodegradability and elimination (H2O): hardly biodegradable (according to OECD criteria).
Disposal considerations: 8 % reduction in DOC (28 d) (Directive 92/69/EEC, C.4-A) (aerobic, mainly domestic waste).
Evaluation of stability in water: in contact with water, the substance hydrolyses slowly.
Stability data in water (hydrolysis): t1/2 > 120 h, < 10 % (5 d) (50 °C, pH value7), (OECD Guideline 111, H 7).

4,4'-isopropylidenediphenol

Solubility in water	300 mg/l (OECD 105)
Rapidly degradable	78,2% / 28d . OECD 301F

12.3. Bioaccumulative potential

benzyl alcohol

Partition coefficient: n-octanol/water	1,1
BCF	1,37 l/kg ww

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

m-phenylenebis(methylamine)

Partition coefficient: n-octanol/water	0,18

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Assessment of bioaccumulation potential: given the n-octanol/water partition coefficient (log Pow), significant accumulation in organisms is not to be expected.
Bioaccumulative potential: Based on the n-octanol/water partition coefficient (log Pow), no accumulation in organisms is expected.
Reference from bibliography.

4,4'-isopropylidenediphenol

Partition coefficient: n-octanol/water	3,4
BCF	67,7 l/kg ww (MITI - Cyprinus Carpio)

12.4. Mobility in soil

SECTION 12. Ecological information ... / >>

benzyl alcohol
Partition coefficient: soil/water 15,7

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
Partition coefficient: soil/water 3890000

m-phenylenebis(methylamine)
Normalized organic carbon adsorption coefficient: 3.11 (QSAR)

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.
. absorption in the soil: absorption into the solid phase of the soil is not predictable.

4,4'-isopropylidenediphenol
Partition coefficient: soil/water 2,95 (OECD 106)

12.5. Results of PBT and vPvB assessment

m-phenylenebis(methylamine)
No PBTs. No vPvB.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
According to Annex XIII of Regulation (EC) n.1907/2006 concerning the registration, evaluation, authorization and restriction of chemicals (Reach): the product does not meet the requirements for classification such as PBT (persistent/bioaccumulable /toxic) and VPVB (very persistent/very bioacumulable). Autoclassification.

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

m-phenylenebis(methylamine)
The product does not contain substances with endocrine disrupting properties.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
The substance is not identified as having endocrine disrupting properties under Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 or is included in the list of substances of very high concern under Article 59 of the REACh Regulation for having 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

m-phenylenebis(methylamine)
No effect.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

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.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 13. Disposal considerations ... / >>

m-phenylenebis(methylamine)
This material and its container must be disposed of as hazardous waste.
Disposal via wastewater: do not dispose of residues into sewers.
Treatment of container/packaging waste: completely empty packaging can be recycled; handle contaminated packaging in the same way as the substance itself.
Remarks: Refer to relevant national or regional requirements.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Incinerate in a suitable plant while respecting local regulations.
The waste code compliant with the European waste catalog cannot be specified as it depends on the use.
In accordance with the European waste catalogue, the waste code must be specified on the basis of an agreement between the disposer, the producer and the authority.
Contaminated packaging: contaminated packaging must be emptied in an optimal manner and then, after adequate washing, can be destined for reuse.

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. (m-phenylenebis(methylamine); 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
IMDG: CORROSIVE LIQUID, N.O.S. (m-phenylenebis(methylamine); 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
IATA: CORROSIVE LIQUID, N.O.S. (m-phenylenebis(methylamine); 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: II

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 1 lt	Tunnel restriction code: (E)
	Special provision: 274		
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 lt	
IATA:	Cargo:	Maximum quantity: 30 L	Packaging instructions: 855
	Passengers:	Maximum quantity: 1 L	Packaging instructions: 851
	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: E2

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

Product

Point	3	

Contained substance

Point	75	
Point	30-66	4,4'-isopropylidenediphenol REACH Reg.: 01-2119457856-23

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

Substances in Candidate List (Art. 59 REACH)
4,4'-isopropylidenediphenol
REACH Reg.: 01-2119457856-23

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.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 3: Severe hazard to waters

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Annex XVII of Regulation 1907/2006/EC: List number: 3, 75, 3, 75.
Directive 2012/18/EU - Control of the risk of major accidents associated with dangerous substances (EU): not listed in the aforementioned regulation.
Regulatory references (Italy): 1) Regulation 1272/2008/EC and subsequent adjustments; 2) Directive 2012/18/EU (Seveso III) and Legislative Decree 105/2015; 3) Legislative Decree 81/2008 and Legislative Decree 152/2006.
If other regulatory information applies that has not already been mentioned elsewhere in the safety data sheet, it is described in this section.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Chemical Safety Assessment performed.

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. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Skin Corr. 1C	Skin corrosion, category 1C
Skin Corr. 1	Skin corrosion, category 1
Eye Dam. 1	Serious eye damage, category 1

SECTION 16. Other information ... / >>

Eye Irrit. 2	Eye irritation, category 2
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
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.
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.
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.
EUH071	Corrosive to the respiratory tract.

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
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- 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
- vPvM: Very persistent and very mobile
- 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

SECTION 16. Other information ... / >>

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)
23. Delegated Regulation (UE) 2023/707
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27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)
28. Regulation (EU) 2024/2865

- 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 / 03 / 11 / 16.