SAFETY DATA SHEET

In accordance with Regulation (CE) 1907/2006, (CE) 1272/2008 and (EU) 453/2010 (Annex I)

SECTION 1.
IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1. Substance identifier

Substance name:	**ADRENALINE**
Other names (if available):	(-)-(R)-Epinephrine; 1-Epinephrine; 4-[(1*R*)-1-Hydroxy-2-(methylamino)ethyl]-1,2-benzenediol; (R)-4-(1-hydroxy-2—(methylamino)ethyl)benzene-1,2-diol; (-)-3,4-Dihydroxy-α-[(methylamino)methyl]benzyl alcohol; 1-1-(3,4-Dihydroxyphenyl)-2-methylaminoethanol; Benzyl alcohol, 3,4-dihydroxy-α-[(methylamino)methyl]-,(-)-; Methylaminoethanolcatechol.
Name in Annex VI-CLP: Name reported in the inventory of harmonized classification and labelling:	unlisted not yet available
CAS number	51-43-4
REACH registration number	Exempt of registration

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

Relevant use(s)	Active Pharmaceutical Ingredient for the preparation of pharmaceuticals (drug products)
Uses advised against	none

1.3. Details of the supplier of the safety data sheet

Manufacturer/Distributor:
Company name: CAMBREX PROFARMACO MILANO Srl
Address : Via Curiel, 34 20067 Paullo (MI) - ITALY
Phone number : 02 9062601
Fax number: 02 90630995

Competent person responsible for the safety data sheet:
Mr. Luciano Albani
e-mail: luciano.albani@cambrex.com

1.4. Emergency telephone number

Location: Address: Via Curiel, 34 20067 Paullo (MI) - ITALY
Phone number (24 hours): +39 02 906260/1

SECTION 2
HAZARDS IDENTIFICATION

2.1 Classification of the substance

- **Classification of the substance in accordance with Regulation (CE) n. 1272/2008:**

Hazard class	Class code and hazard category	Hazard statement	Hazard warning
Acute toxicity	**Acute Tox. 2**	**H310**	**Fatal in contact with skin.**
Aquatic environment	**Aquatic Chronic 3**	**H412**	**Harmful to aquatic life with long lasting effects.**

- **Classification in accordance with Directive 67/548/CEE:**

Classification	Risk phrases	Safety phrases
T- R24	**R24 - Toxic in contact with skin.**	**S28, S36/37/39, S45, S61**
R52/53	**R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment**	

Main adverse effects

Physico-chemical effects: No adverse effects known.

Health effects: **Toxic in contact with skin**. Epinephrine may cause fear, anxiety, tenseness, restlessness, headache, tremor, dizziness, nervousness, sleeplessness, excitability and weakness. In patients with parkinsonian syndrome, the drug increases rigidity and tremor. Epinephrine may aggravate or induce psychomotor agitation, disorientation, impaired memory, assaultive behaviour, panic, hallucinations, suicidal or homicidal tendencies and psychosis characterized by clear consciousness with schizophrenic-like thought disorder and paranoid delusions in some patients. Nausea, vomiting, sweating, pallor, respiratory difficulty or respiratory weakness and apnea may also occur. An overdose of epinephrine can produce ECG signs of myocardial hypoxia (ST segment deviation and ectopic beats) and subendocardial necrosis in humans[(2)]

Environmental effects: **Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.**

See also sections from 9 to 12

2.2 Label elements

- **Labelling in accordance with regulation n. 1272/2008/EC**

Pictograms		
Signal Word	Danger	
Hazard indication (H))[1]	H310	H412
Safety statements (P)[1]		
- *Prevention*	P273	
- *Reaction*	P302+ P350, P310, P361, P363	
- *Storage*	-	
- *Disposal*	P501	

[1] For the explanation of H and P statements: see Section 16

2.3 Other hazards (which do not results in the classification)

The substance satisfies the PBT criteria	YES	NO
- PBT		X
- vPvB		X

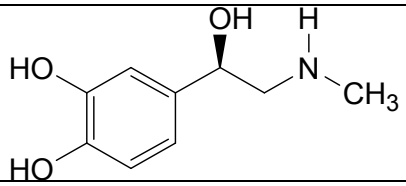
- Health hazards: May be irritant or sensitizing if swallowed, inhaled or in contact with eyes.
- Environmental hazards: Not known
- Physico-chemical hazards: not known
- Specific effects: not known

SECTION 3
COMPOSITION/INFORMATION ON INGREDIENTS

Description: active pharmaceutical ingredient

Chemical family: catecholamines

Therapeutic category: bronchodilator, cardiostimulant, mydriatic, antiglaucoma

Name of the component	Adrenaline
Concentration	Pure substance
Structural formula	
Chemical formula	$C_9H_{13}NO_3$
Molecular weight	183.2 g/mol
Substance with Community OEL	No
CAS name	4-[(1*R*)-1-Hydroxy-2-(methylamino)ethyl]-1,2-benzenediol
CAS number	51-43-4
IUPAC name	(R)-4-(1-hydroxy-2-(methylamino)ethyl)benzene-1,2-diol
EC number	EINECS 200-098-7
Index number	not assigned
Impurity/ies (if classified)	-
Additive/ies (if classified)	-

SECTION 4
FIRST AID MEASURES

4.1 Description of the first aid measures

- *Eye contact:* wash immediately with large amounts of water or normal saline. Keep eyelids open with the fingers. Get medical advice if adverse symptoms will appear.
- *Skin contact:* remove contaminated clothes and shoes immediately. Wash affected area with soap or mild detergent and large amount of water until no evidence of substance remains (15-20 minutes). Get medical advice and shown the label.
- *Ingestion:* if swallowed wash mouth with water provided person is conscious. Treat symptomatically and supportively. Get medical advice if adverse symptoms will appear.
- *Inhalation:* avoid breathing aerosols and dusts that may be generated by handling of the product. Remove the person from the exposed area to fresh air immediately. Get medical advice if adverse symptoms will appear.

4.2 Most important symptoms and effects (acute and delayed)

- *Acute effects* **Epinephrine is toxic in contact with skin**. If swallowed may cause fear, anxiety, tenseness, restlessness, headache, tremor, dizziness, nervousness, sleeplessness, excitability and weakness. In patients with parkinsonian syndrome, the drug increases rigidity and tremor. Epinephrine may aggravate or induce psychomotor agitation, disorientation, impaired memory, assaultive behaviour, panic, hallucinations, suicidal or homicidal tendencies and psychosis characterized by clear consciousness with schizophrenic-like thought disorder and paranoid delusions in some patients. Nausea, vomiting, sweating, pallor, respiratory difficulty or respiratory weakness and apnea may also occur. An overdose of epinephrine can produce ECG signs of myocardial hypoxia (ST segment deviation and ectopic beats) and subendocardial necrosis in humans[(2)]
- *Delayed effects:* -

4.3 Indication of any immediate medical attention and special treatment needed

- *Medical monitoring:*	In case of contact with skin
- *Antidotes, if known*	unknown
- *Contraindications*	unknown
- *Immediate treatment at workplace*	not known

SECTION 5
FIREFIGHTING MEASURES

5.1 Extinguishing media

- *Suitable estinguishing media*	water spray or regular foam, CO_2, dry chemical powder
- *Unsuitable estinguishing media*	not known

5.2 Special hazards arising from the substance

- *Hazardous combustion products*	May generate toxic and hazardous fumes COx, NOx.
- *Other special hazards*	not known

5.3 Advice fo firefighters

- *Technical actions for protection* Keep containers cool with water.
- *Special protective equipment for firefighters* Wear boots, overalls, gloves, eye and face protection and breathing apparatus. Equipment must be conformed with EN criteria and used in highest condition of protection on the basis of the information reported in the previous sub-sections.

SECTION 6
ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel

Wear appropriate protective equipment (see Section 8) to prevent contamination of the skin, eyes and personal clothing.

In case of fire and/or and explosions avoid breathing fumes and vapors. Use a self-contained breathing apparatus (SCBA) and appropriate protective clothing. The fumes can be eliminated by spraying with water.

See also section 8

- **For emergency responders**

See section 8.

6.2 Environmental precautions

In case of accidental release in the environment avoid that the substance can reach drains, surface water and ground water. Contact local authorities in case of environmental release.

6.3 Methods and material for containment and clearing up

- *Containment procedures:* Coverage of the discharges
- *Cleaning up procedures:* Recover the substance for suction or other mechanical means and wash the area with plenty of water and detergents. Store the material into a company that specializes pending disposal. Containers must be cleaned up and disposed of as waste remediation above.

6.4 Reference to other sections

See also section 8 and 13.

SECTION 7
HANDLING AND STORAGE

7.1. Precautions for safe handling

- *Recommandation for handling:* Handle away from sparkles and flames - sources of ignition
  Handle in a well ventilated place
  Avoid contact with incompatible materials
  Wear suitable Personal Protection Equipment (see section 8)
  Keep the substance away from drains, surface or ground waters
- *Recommandation for personal hygiene:* Do note eat, drink and smoke in the working areas
  Wash hands after handling the substance
  Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Condition for safe storage including any incompatibilities

The substance is not classified for any physical and chemical properties and no risk management is foreseen.

Other advice

- *Ventilation requirements* Use in a well ventilated place at room temperature, less than 40°C**.**
- *Containers* keep containers tightly closed and labelled with the name of the product.
- *Specific design of storage rooms* Not requested on the based of the classification
- *Quantity limits for storage* Not requested on the based of the classification
- *Packaging compatibilities* See also section 10.5

7.3. Specific end use(s)

- Recommendation for specific final use(s): the substance is an Active Pharmaceutical Ingredient which shall be used only for professional purposes for the preparation of pharmaceuticals (drug products).

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X
- Industry or sector specific guidance available and attached		X

SECTION 8
EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

- National/European Occupational Exposure Limits	Manufacturer's internal occupational exposure limit (OEL): 200 µg/m^3, 15 min, short-term exposure limit.
- Other National/European Occupational Exposure Limits	unknown
- Recommended monitoring procedures	The measurement of substances in the workplace must be carried out with standardized methods (eg EN 689:1997: Workplace atmospheres - Guide for assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy; UNI EN 482:2006: atmospheres in the workplace - General requirements for the provision of procedures for the measurement of chemical agents) or, failing that, with appropriate methods.
- DNEL values (components)	Unknown
- PNEC values (components)	unknown

8.2. Exposure controls

	SI	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X

8.2.1. Appropriate engineering controls

The adoption of the most appropriate technical controls is also based on the local Risk Assessment done by the employer in its workplace conditions (use of the substance) when a unique and standardized exposure scenario described in a dossier registered REACH is not available.

8.2.2. Individual protection measures, such as Personal Protective Equipment (PPE)

a) Eye and Face protection	Safety goggles as for EN 166; facial shield
b) Skin protection	
- *hands protection*	Gloves resistant to chemical agents as for the EN 374, parts 1, 2 e 3 and the European Directive 89/89/CEE. The glove material has to be made of rubber or polyethylene impermeable and resistant to the substance. Make the choice of the glove material on consideration of the penetration times, rates of diffusion and degradation. The selection of suitable gloves not only depends on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- *other, body protection*	Select the suitable protective equipment based on the activity of use and possible exposure. Wear gauntlets, boots, bodysuit and other devices in accordance with EN 13982.
c) Respiratory protection	Dust mask with approved dust filter P1, P2, P3 type (EN143). Use only devices approved by the Competent Authorities such as NIOSH (USA) and CEN (EU) In the case of brief exposure or minimal exposure use respiratory filter; in case of intensive and sustained exposition wear self-contained breathing.
d) Thermal hazards	Not foreseen in the standard use. Assess possible Personal Protection Equipment on the basis of specific uses of the substance.

8.2.3 Environmental exposure controls

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X

Avoid release to the environment.

SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	white or almost white crystalline powder
Odor:	odourless
Odour threshold:	-
pH:	9.0 (1.0 g/l) [1]
Melting point/freezing point:	211.5 °C (exp)[2]
Boiling point:	Data not available in the literature search carried out
Flammability:	Data not available in the literature search carried out
Auto-ignition temperature:	Data not available in the literature search carried out
Vapour pressure:	7.37×10^{-7} mmHg at 25°C (est)[2]
Density:	Data not available in the literature search carried out
Water solubility:	180 mg/l at 20°C (exp)[2]
Solubility in organic solvents:	Readily soluble in aqueous solutions of mineral acids; insoluble in chloroform, ether, acetone, oils, aqueous solutions of ammonia and of the alkali carbonates. Very slightly soluble in alcohol. [3]
Partition coefficient Octanol/water (Log Kow):	log Pow = - 1.37 [1]
Explosive properties:	Data not available in the literature search carried out
Oxidising properties:	Data not available in the literature search carried out

9.2. Other information

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SECTION 10
STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions of storage.

10.2. Chemical stability

The product is considered stable under normal conditions of temperature and pressure, in closed containers and in well ventilated place .

	NO	YES	Used stabiliser
- Stabilisers:	X	-	
- Change in physical appearance	X	-	

10.3. Possibility of hazardous reactions

	NO	SI
- Possibility of an exothermic reaction:	X	-
- Possibility of a reaction releasing excessive pressure	X	-
- Possible degradation with instable product formation	X	-

10.4. Condition to avoid

Exposure to temperatures exceeding 40°C, light, moisture and ignition sources.

10.5. Incompatible materials

Adrenaline is incompatible with oxidizers, alkalis, copper, iron, silver, zinc and other metals; gum and tannin. It is also incompatible with acids, acid chlorides and acid anhydrides. It reacts with salts of sulphurous acid. (4)

10.6. Hazardous decomposition products

Thermal decomposition or combustion may include toxic and hazardous fumes of COx, NOx.

SECTION 11
INFORMATION ON TOXICOLOGICAL EFFECTS

- **Exposure routes:**

	SI	NO
- Inhalation:	X	
- Ingestion:	X	
- Skin contact:	X	
- Eye contact:	X	

- Effects (acute, delayed, chronic) following the exposure (short and/or prolonged):

- *Inhalation:* may be harmful, irritant or sensitising
- *Ingestion:* may be harmful or irritant if swallowed.
- *Skin contact:* Toxic in contact with skin.
- *Eye contact:* may cause irritation.

- **Toxico-kinetics information (ADME=A**dsorption,**D**istribution,**M**etabolism,**E**xcretion**)**:
Epinephrine is well absorbed after subcutaneous or IM injection; absorption can be hastened by massaging the injection site. Both rapid and prolonged absorption occur after subcutaneous injection of the aqueous suspension. After oral inhalation of epinephrine in the usual dosage, absorption is slight and the effects of the drug are restricted mainly to the respiratory tract. Absorption increases somewhat when larger doses are inhaled, and systemic effects may occur. (3)
The oral ingestion of labelled epinephrine by normal volunteers has shown that 60-70% of the total radioactivity is excreted in the urine within 72 hours. (3) Half life: 2 minutes. (7)
Epinephrine crosses the placenta but not the blood-brain barriers. The drug is distributed into milk. (3)

- Acute toxicity effects:

- *Oral:* LD_{L0} rat = 30 mg/kg (5)
  LD_{L0} mouse = 50 mg/kg (5)
- *Dermal:* LD50 rat = 62 mg/kg (6)
  - effects: somnolence, general depressed activity, convulsion or effect on seizure threshold, excitement
- *Inhalation:* Data not available in the literature search carried out
- *Other effects:* TD_{L0} oral man = 77 mg/kg (8)
  - effects: hallucinations, distorted perceptions, excitement, nausea, vomiting

- Corrosion/Irritation effects: Data not available in the literature search carried out

- Severe ocular lesion: Data not available in the literature search carried out

- Sensitisation:

- *Dermal:* Data not available in the literature search carried out
- *Respiratory:* Data not available in the literature search carried out

- Repeated dose toxicity (tested):

Clinical effects from repeated administration studies are not reported. NOAEL not available.

- CMR effects:

- Mutagenicity: Ames test with and without metabolic activation: negative. [9]
- Carcinogenicity: Data not available in the literature search carried out
- Teratogenesis:

Intravenous infusion of Epinephrine into pregnant rabbits elevated maternal blood pressure and caused extensive uterine vasoconstriction, placental cyanosis, and functional cardiovascular alterations in the fetus. The placental cyanosis coincided with, or slightly preceded, the fetal hemodynamic changes.[10]

Adrenalin (epinephrine) has been shown to be teratogenic in rats when given in doses about 25 times the human dose. There are no adequate and well-controlled studies in pregnant women. Adrenalin should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.[10]

RTECS number: DO2625000

Other Information:

-in rabbits, daily intravenous injections of near-lethal doses have caused choroidal hemorrhages and exudates, with degenerative changes in the retina, hemorrhages in the conjunctiva, and opacity of the cornea;[3]

-in rats and mice, lens opacities have been seen to appear rapidly, and then disappear, after systemic administration of very large doses of epinephrine;[3]

-allergy or contact sensitivity develops in many patients, characterized by itching and burning sensation, epiphora, and hyperemia of conjunctiva and lids. [3]

- Specific Target Organ Toxicity (STOT)-single exposure:

Data not available in the literature search carried out

- Specific Target Organ Toxicity (STOT)- repeated exposure :

Data not available in the literature search carried out

- Aspiration hazards: Data not available in the literature search carried out

- Epidemiological information: Maculopathy from chronic use of epinephrine eyedrops on aphakic glaucomatous eyes was observed in fifteen patients (22 eyes), documenting subnormal vision while epinephrine eyedrops were being administered, and a significant improvement, almost to normal, in most cases when epinephrine was discontinued. [3]

SECTION 12
ECOLOGICAL INFORMATION

12.1. Toxicity

Acute toxicity with Daphnia magna: EC50 = 31.7[1] mg/l (48h)

12.2. Persistence and degradability

Epinephrine is unstable in the presence of heat, light, air and alkalies. Although, epinephrine has the potential to undergo direct photolysis, various photooxidation reactions, and chemical reactions in the environment [3], experimental tests has shown that the substance is not readily biodegradable (41 % in 28 days). [1]

12.3. Bioaccumulative potential

An estimated bioconcentration factor (log BCF) of 1.10 indicates that epinephrine should not bioconcentrate among aquatic organisms. [3]

12.4. Mobility in soil

Epinephrine is a catecholamine which may dissociate in soil in varying proportions that are pH dependent. Ions are not expected to volatilize. An estimated Koc of 98 indicates epinephrine should be highly mobile in soil, and it should not partition from the water column to organic matter contained in sediments and suspended solids. Epinephrine is expected to exist almost entirely in the particulate phase in ambient air. [3]

12.5. Results of PBT e vPvB assessment

Evaluation not available.

12.6. Other adverse effects

Not known

SECTION 13
DISPOSAL CONSIDERATION

13.1. Waste treatment methods

	Incineration	Recycling	Landfilling
- Mixture wastes:	X		
- Contaminated packaging:		X	

Should never be disposed through wastewater.

Refers to Community/National/Local requirements concerning the waste disposal.

SECTION 14
TRANSPORT INFORMATION

UN Number: 2811
Rail and road transport
Proper shipping name: Toxic solid organic n.o.s. (Adrenaline)
ADR/RID class: 6.1
Packaging group:II
ADR/RID label: 6.1

Marine transport
Proper shipping name: Toxic solid organic n.o.s. (Adrenaline)
IMDG class: 6.1
Packaging group: II
IMDG label: 6.1

Air transport
Proper shipping name: Toxic solid organic n.o.s. (Adrenaline)
IATA class: 6.1
Packaging group: II
IATA label: 6.1
Precaution for transport: -

SECTION 15
REGULATORY INFORMATION

15.1 Safety, Health and Environmental regulation/legislation specific for the mixture or its ingredients

Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work and following amendment and National reinforcements.

Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to the personal protective equipment

Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) Official Journal L 131 , 05/05/1998 P. 0011 – 0023

Regulation (EC) no 689/2008 of the european parliament and of the council of 17 June 2008 concerning the export and import of dangerous chemicals

15.2. Chemical Safety Assessment

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X

SECTION 16
OTHER INFORMATION

Revisions:

- **Revision n. 02** dated November 2010 (regarding all sections in according to Regulation no. 453/2010).

Bibliographic sources:

[1] EDQM-European Directorate for the Quality of Medicines & HealthCare: Safety Data Sheet of Adrenaline (revision 02 – 14/05/08)
[2] ChemIDplus Lite, Epinephrine, full document
[3] Hazardous Substances Data Bank (HSDB),a database of the National Library of Medicine's TOXNET system (http://toxnet.nlm.nih.gov), Epinephrine, HSN: 4289
[4] CAMEO Chemicals, Chemical datasheet, Epinephrine
[5] "Structure et Activite Pharmacodyanmique des Medicaments du Systeme Nerveux Vegetatif," Bovet, D., and F. Bovet-Nitti, New York, S. Karger, 1948Vol. -, Pg. 22, 1948.
[6] Gigiena Truda i Professional'nye Zabolevaniya. Labor Hygiene and Occupational Diseases. Vol. 8(4), Pg. 30, 1964.
[7] Wikipedia, the free Enciclopedia, Epinephrine
[8] Annals of Emergency Medicine. Vol. 19, Pg. 671, 1990.
[9] Chemical Carcinogenesis Research Information System (CCRIS), Epinephrine
[10] RxLIst, The Internet Drug Index, Adrenalin

Acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADR: Agreement concerning the carriage of dangerous goods by Road
- BCF: Bioaccumulative factor
- BEI : Biological Esposure Indices (Indici di esposizione biologica)
- CAS: Chemical Abstract Service (division of the American Chemical Society
- CLP: Classification, Labelling and Packaging
- CMR: Carcinogens, Mutagens, Toxic for re production substances
- EINECS: European Inventory of existing Commercial Substances
- EPA: US Environmental Protection Agency
- GHS: Globally Harmonised System
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association Code
- IMDG: International Maritime Dangerous Goods Code
- IUPAC: International Union of Pure and Applied Chemistry
- LOEL: Lowest Observed Effect Level
- NOAEL: No Observed Adverse Effect Level)
- NTP: National Toxicology Program
- OEL: Occupational Exposure Limit
- OSHA: Occupational Safety and Health Administration
- PPE : Personal protective Equipment
- PBT: Persistent, Bioaccumulative and Toxic substances
- RID: Regulation concerning the International carriage of Dangerous goods by rail
- TLV/TWA: Threshold Limit Value/Threshold Weighted Average
- vPvB: very Persistent, very Bioaccumulative

Information related to the regulation CE/1272/2008

List of hazards statements

H310:	**Fatal in contact with skin**
H412:	**Harmful to aquatic life with long lasting effects**

List of P statements

Prevention

P273:	**Avoid release to the environment**

Reaction

P302+P350:	**IF ON SKIN: Gently wash with plenty of soap and water.**
P310:	**Immediately call a poison center or doctor/physician.**
P361:	**Remove/Take off immediately all contaminated clothing.**
P363:	**Wash contaminated clothing before reuse.**

Storage -

Disposal

P501:	**Dispose of contents/container in accordance with local/regional/ national/international regulation.**

Information related to the Directive 67/548/CEE, Directive 1999/45/CE and Regulation (CE) n. 1907/2006

R phrases

R24:	**Toxic in contact with skin.**
R52/53:	**Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment**

S phrases

S28:	**After contact with skin, wash immediately with plenty of water and soap.**
S36/37/39:	**Wear suitable protective clothing, gloves and eye/face protection.**
S45:	**In case of accident or if you feel unwell, seek medical advice immediately (show the label were possible).**
S61:	**Avoid release to the environment. Refer to special instructions/safety data sheet**

Information on workers training

Follow criteria of Directive 98/24/CE, its amendments and National reinforcements

Restriction of use : None

Substance under authorisation : no

DISCLAIMER

This document aims to provide guidance for appropriate handling and precaution of this product by qualified personnel or operating under the supervision of personnel trained in handling chemicals. The product should not be used for purposes other than those mentioned in section 1, unless they are given adequate written information received on how to handle the material. The provider of this document can not provide any warnings about the dangers of ' use or interaction with other chemicals or materials. And 'the user's safe use of the product, the product suitability for the purpose for which it is applied and proper disposal. The information below should not be considered a declaration or guarantee, either expressed or implied, of merchantability, fitness for a particular purpose, quality, or any other. The information contained in this SDS are in accordance with Annex I of Regulation No 453/2010/EU.

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