



**Cantel Medical (Italy) S.R.L.**  
Industria Chimico-Farmaceutica  
Via Laurentina 169  
00071 POMEZIA (RM)

# PROTEAZONE®

MEDICAL DEVICE class IIb  
IDENTIF. CODE PAZ/CE/22

1st Edition  
Revision n. 9  
Revision date: 17.02.2016  
Page n. 1/17

## Safety Data Sheet

### SECTION 1. Identification of the Substance/Mixture and of the Company/Firm

#### 1.1. Product Identifier

Name **PROTEAZONE®**  
Chemical name and synonyms

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

Description/Use Adazone® solution (CAS 267638-83-8) with non-ionic and cationic surfactants.  
Classification Medical Device Class IIb Directive 93/42/EEC, as amended  
Decontamination solution and detergent for invasive and non-invasive medical devices and for electro-medical equipment. Professional use only.

Uses advised against None in particular.

#### 1.3. Details of the Supplier on the Safety Data Sheet

Company Name Cantel Medical (Italy) S.R.L.  
Address Via Laurentina, n. 169  
Town and Country 00071 Pomezia (RM)  
ITALY  
telephone +39.06/9145399  
E-mail: info@cantelmedical.it

email address of the person responsible,  
person responsible for the safety data sheet Technical Director/Qualified Person (QP): [direzionetecnica@cantelmedical.it](mailto:direzionetecnica@cantelmedical.it)

#### 1.4. Emergency telephone number

**Telephone numbers of the main poison centers in Italy (open 24 hours a day):**

Poison Centre Niguarda Ca' Granda 02.66101029 (CAV A.O.Niguarda – Milan)

For urgent inquiries refer to Emergency telephone number of the company (24/24 hours):  
tel. +39.06/9145399 (*Technical Support*)

### SECTION 2. Hazards Identification.

#### 2.1. Classification of the Substance or Mixture

The product is classified as a dangerous substance pursuant to the provisions laid within in Regulation (EC) 1272/2008 (CLP) (and subsequent amendments). The product requires therefore a safety data sheet in accordance with the provisions of Regulation (EC) 1907/2006 and subsequent amendments.

Any additional information concerning risks to health and/or environment are stated in sections 11 and 12 of this sheet.

##### 2.1.1 Regulation 1272/2008 (CLP) and subsequent amendments.

Classification and hazard statements:

Flam. Liq. 3	H226
Acute Tox. 4	H302
Eye Dam. 1	H318
Skin Irrit. 2	H315
Aquatic Acute 3	H412

**2.1.2. Directives 67/548/EEC and 1999/45/CE and subsequent amendments.**

Hazard symbols: Xi

R-Phrases: 10-41

The full texts for risk phrases (R) and indications of danger (H) are specified in section 16 of this sheet.

**2.2. Label elements.**

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



Warnings:

Danger

<b>H226</b>	Flammable liquid and vapours.
<b>H302</b>	Harmful if swallowed.
<b>H318</b>	Causes serious eye injuries.
<b>H315</b>	Causes skin irritation.
<b>H412</b>	Harmful to aquatic organisms with long-term effects.
<b>EUH208</b>	Contains: SUBTILISIN May cause an allergic reaction.
<b>P210</b>	Keep away from heat sources, hot surfaces, sparks, open flames or other ignition sources. Do not smoke.
<b>P280</b>	Wear protective gloves / clothing / protect your eyes / face.
<b>P305+P351+P338</b>	IF IN EYES: rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
<b>P310</b>	Immediately contact a POISON CENTRE.
<b>P501</b>	Dispose of the product/container in conformity with local/national/international legislation

**Contains:** DIDECYLDIMETHYLAMMONIUM CHLORIDE  
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED /

**2.3. Other Hazards.**

Information not available.

**SECTION 3. Composition/Information on Ingredients****3.1. Substances.**

Information not relevant.

**3.2. Mixtures.**

Contains:

Identification.	Conc. %.	67/548/EEC Classification.	1272/2008 (CLP) Classification.
<b>POLY(OXY-1,2-ETHANEDIYL), .ALPHA-TRIDECYL-.OMEGA-HIDROXY-,BRANCHED /</b> CAS. - CE. - INDEX. - Reg. No.	18 - 19.5	Xn R22, Xi R41	Acute Tox. 4 H302, Eye Dam. 1 H318
<b>ISOPROPANOL</b> CAS. 67-63-0 CE. 200-661-7 INDEX. 603-117-00-0 Reg. No. -	6 - 7	R67, F R11, Xi R36	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336
<b>DIDECYLDIMETHYLAMMONIUM CHLORIDE</b> CAS. 7173-51-5 CE. 230-525-2 INDEX. 612-131-00-6 Reg. No. -	3.5 - 4	C R34, Xn R22, N R50	Acute Tox. 3 H301, Skin Corr. 1B H314, Aquatic Acute 1 H400 M=10
<b>ETHANE-1,2-DIOL</b> CAS. 107-21-1 CE. 203-473-3 INDEX. 603-027-00-1 Reg. No. 01-2119456816-28-XXXX	1 - 1.5	Xn R22	Acute Tox. 4 H302, STOT RE 2 H373
<b>PENTASODIUM DIETHYLENETRIAMINEPENTAACETATE</b> CAS. 140-01-2 CE. 205-391-3 INDEX. - Reg. No. 01-2119474445-33	0.3 - 0.4	Repr. Cat. 3 R63, Xn R20, Xi R36	Repr. 2 H361d, Acute Tox. 4 H332, Eye Irrit. 2 H319
<b>SUBTILISIN</b> CAS. 9014-01-1 CE. 232-752-2 INDEX. 647-012-00-8 Reg. No. 01-2119480434-38	0.1 - 0.2	Xn R22, Xn R42, Xi R37/38, Xi R41, N R50	Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Aquatic Acute 1 H400 M=1

Note: Value exceeding the excluded range.

The full texts for risk phrases (R) and indications of danger (H) are specified in section 16 of this sheet.

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritating(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely flammable(F+), F = Highly Flammable(F), N = Dangerous to the environment(N)

## SECTION 4. First Aid Measures.

#### 4.1. Description of First Aid Measures.

**EYES:** Remove any contact lenses. Wash immediately and thoroughly with water for at least 30/60 minutes, with eyes wide open. Consult a physician immediately.

**SKIN:** Take off contaminated clothing. Take a shower immediately. Consult a physician immediately.

**INGESTION:** Drink water as much as possible. Consult a physician immediately. Do not induce vomiting unless expressly recommended by the physician.

**INHALATION** Seek medical advice immediately. Bring the subject outdoors, away from the place of the accident. If breathing stops, provide artificial respiration. Take adequate precautions for the first aider.

**PROTECTION MEASURES FOR THE FIRST AIDERS:** for the PPE needed for first aid refer to section 8.2 of this safety data sheet.

#### 4.2. Most Important Symptoms and Effects, both Acute and Delayed.

For the symptoms and effects due to the substances contained in it, see chap. 11.

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

Information not available.

## SECTION 5. Fire-Fighting Measures.

#### 5.1. Extinguishing Media.

##### SUITABLE EXTINGUISHING MEDIA

Extinguishing media are carbon dioxide, foam, chemical powder. For product leaks and spills that did not cause a fire, water spray can be used to disperse the flammable vapours and protect the people involved in stopping the leakage.

##### UNSUITABLE EXTINGUISHING MEDIA

Do not use water jets. Water is not effective to extinguish the fire but can be used to cool close containers exposed to flames, thus preventing fires and explosions.

#### 5.2. Special Hazards Arising from the Substance or Mixture.

##### DANGERS FROM EXPOSURE IN CASE OF FIRE

Excess pressure may form in containers exposed to fire with explosion hazard. Avoid breathing the combustion products.

#### 5.3. Advice for Fire-fighters.

##### 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 personal protection devices including fire equipment. Collect contaminated fire fighting water separately, it must not be discharged into the drains. Dispose of the contaminated water used for fire fighting and the residue of the fire according to the rules in force.

##### EQUIPMENT

Normal equipment for fire fighting such as self-contained breathing apparatus (EN 137), flame retardant turnout gear (EN469), flame-retardant gloves (EN 659) and boots for firemen (HO A29 or A30).

## SECTION 6. Measures in Case of Accidental Release.

#### 6.1. Personal Precautions, Protective Equipment and Procedures in Case of Emergency.

Stop leak if without risk. Wear appropriate protective devices (including the personal protective equipment referred to in section 8 of the safety data sheet) in order to prevent contamination of the skin, eyes and personal clothing. These guidelines apply to staff who work under both standard and emergency conditions.

**6.2. Environmental Precautions.**

Prevent the product from entering sewers, surface waters, and groundwater.

**6.3. Methods And Material For Containment And Remediation.**

Suck up the spilled product into an appropriate container. Assess the compatibility of the container to use with the product, checking section 10. Absorb the remaining product with inert absorbent.

Ensure adequate ventilation of the area affected by the loss. Check any incompatibility for the material of the containers in section 7. Disposal of contaminated material must be carried out in accordance with the provisions of section 13.

**6.4. References to Other Sections**

Any information relating to personal protective equipment and disposal are given in sections 8 and 13.

**SECTION 7. Handling And Storage.****7.1. Precautions for Safe Handling**

Keep away from heat, sparks and flames, do not smoke or use matches or lighters. The vapours can be ignited with an explosion, so you must avoid accumulation holding open doors and windows and ensuring a cross ventilation. Without proper ventilation, the fumes can accumulate on the ground and ignite even from a distance, if ignited, with danger of backfiring. Avoid the accumulation of electrostatic charges. Connect to a grounded socket in the case of large packaging during the decanting process and wear anti-static shoes. The strong shaking and vigorous flow of liquid in the pipes and equipment may cause formation and accumulation of electrostatic charges. To avoid the danger of fire and explosion, never use compressed air in the movement. Open the containers with caution, because they may be pressurized. Do not eat, drink or smoke during use. Avoid release to the environment.

**7.2. Conditions for Safe Storage, Including any Incompatibilities.**

Keep only in original container. Keep the containers closed, in a well ventilated place, sheltered from direct sunlight. Store in a cool, well-ventilated area away from heat sources, open flames, sparks and other sources of ignition. Store containers away from any incompatible materials, refer to section 10.

**7.3. Specific end uses.**

No use other than those indicated in section 1.2 of this safety data sheet.

**SECTION 8. Exposure controls/personal protection.****8.1. Control Parameters.**

Reference Standards:

Italy	Legislative Decree April 9, 2008, n.81.
Switzerland	Valeurs limites d'exposition aux postes de travail 2012.
OEL EU	Directive 2009/161/UE; Directive 2006/15/CE; Directive 2004/37/CE; Directive 2000/39/CE.
TLV-ACGIH	ACGIH 2012

**ISOPROPANOL**
**Threshold value.**

Type	Status	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		492	200	983	400

**ETHANE-1,2-DIOL**
**Threshold value.**

Type	Status	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	I	52	20	104	40	SKIN
OEL	EU	52	20	104	40	SKIN
TLV-ACGIH				100 (C)		

**PENTASODIUM DIETHYLENETRIAMINEPENTAACETATE**

Concentration with no predicted effect on the environment - PNEC.

Reference value for ground compartment	0.853	mg/kg
Reference value in fresh water.	6.4	mg/l
Reference value for water, discontinuous release	3.1	mg/l
Reference value in seawater	0.64	mg/l
Reference value for sediments in fresh water	23	mg/kg
Reference value for sediments in seawater	2.3	mg/kg
Reference value for STP microorganisms	51	mg/l

**Health - Derived no-effect level - DNEL / DMEL**

Route of Exposure	Effects on consumers. Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers Acute local	Acute systemic	Chronic local	Chronic systemic
Dermal absorption.							VND	11718 mg/kg/day

**SUBTILISIN**
**Threshold value.**

Type	Status	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH				0.00006 (C)	

Concentration with no predicted effect on the environment - PNEC.

Reference value for ground compartment	0.568	mg/kg
Reference value in fresh water.	0.06	microg/l
Reference value for water, discontinuous release	0.009	microg/l
Reference value in seawater	0.006	microg/l
Reference value for sediments in fresh water	NEA	
Reference value for sediments in seawater	NEA	
Reference value for STP microorganisms	65000	microg/l

**Health - Derived no-effect level - DNEL / DMEL**

Route of Exposure	Effects on consumers. Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers Acute local	Acute systemic	Chronic local	Chronic systemic
Dermal absorption.					0.2 mg/kg	VND		

**SODIUM HYDROXIDE**

**Threshold value.**

Type	Status	TWA/8h	STEL/15min
		mg/m3	ppm
		mg/m3	ppm
TLV-ACGIH			2 (C)

**Health - Derived no-effect level - DNEL / DMEL**

Route of Exposure	Effects on consumers.			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.							1 mg/m3	VND

## Legend:

(C) = CEILING ; INALAB = Inhalable fraction ; RESPIR = Respirable fraction ; TORAC = Thoracic fraction.  
VND = danger identified but no DNEL/PNEC available ; NEA = negative exposure assessment ; NPI = no danger identified.

**8.2. Exposure controls.**

Considered that the use of appropriate technical measures should always prevail over personal protective devices, ensure good ventilation in the workplace using an effective local exhaust system.

The personal protective equipment should bear the CE marking to certify their compliance with applicable standards.

Provide emergency shower and eye wash facilities.

**HAND PROTECTION**

Protect your hands with gloves of category III (ref. standard EN 374).

Final selection of glove material must be made taking into account these factors: compatibility, degradation, permeation and time to failure.

In the case of preparations the resistance to chemical agents of gloves material should be tested before use, since unpredictable. The gloves have a wear time that depends on the duration and the mode of use.

**SKIN PROTECTION**

Wear long-sleeved overalls and safety footwear for professional use, Category II (ref. Directive 89/686/EEC and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

Assess the opportunity to provide antistatic clothing if the work area may present a risk of explosion.

**EYE PROTECTION**

It is recommended to wear a faceshield with helmet or faceshield with goggles (REF. EN 166).

If there is a risk of exposure to splashes or squirts during work performed, adequate protection of the mucous membranes (mouth, nose, eyes) must be provided in order to prevent accidental absorption.

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) of the substance or of one or more of the substances present in the product is exceeded, it is recommended to wear a mask with filter type A, class 1, 2 or 3, to be chosen in relation to the concentration limit of use. (ref. standard EN 14387). In the presence of gases or vapours of a different nature and/or gas or vapours with particles (aerosols, fumes, mists, etc. ) you should provide combined filters.

The use of respiratory protection is necessary if technical measures taken are not sufficient to limit the exposure of the worker to the threshold values taken into consideration. The protection provided by masks is in any case limited.

In the case where the substance in question is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in case of emergency, wear a self-contained breathing apparatus (ref. EN 137) or a respiratory device with external air intake (ref. standard EN 138). To choose the respiratory protection device correctly, refer to the standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS.**

Emissions from manufacturing processes, including those from ventilation equipment, should be controlled for the purposes of compliance with the rules and regulations on environmental protection.

The product residues should not be disposed of uncontrollably in waste water or water courses.

**SECTION 9. Physical And Chemical Properties.**

**9.1. Information on Basic Physical and Chemical Properties.**

Physical State	clear liquid
Colour	blue
Odour	pungent
Olfactory threshold.	Not available.
pH	7.5 +-1.0
Melting o Freezing Point.	Not available.
Initial boiling point.	> 100 °C.
Boiling point.	Not available.
Flash Point.	43 °C.
Evaporation rate	Not available.
Flammability of solids and gases	Not available.
Lower Flammability Limit.	Not available.
Upper Flammability Limit.	Not available.
Lower Explosive Limit.	Not available.
Upper Explosive Limit.	Not available.
Vapor pressure.	Not available.
Vapour Density.	Not available.
Relative density.	1.0 ± 0.2 Kg/l
Solubility	soluble in water at 25°C
Partition coefficient: n-octanol/water:	Not available.
Ignition Temperature.	Not available.
Decomposition Temperature.	Not available.
Viscosity	Not available.
Explosive properties	Product not explosive considering its composition
Oxidizing properties	Product not oxidizing given its composition

**9.2. Other Information.**

VOC (Directive 1999/13/CE) :	7,40 % - 74,00 g/litre.
VOC (volatile carbon):	3,59 % - 35,94 g/litre.

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

Under normal conditions of use there are no particular risk of reaction with other substances.

**10.2. Chemical Stability.**

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

**10.3. Possibility of Hazardous Reactions.**

None under normal and intended conditions of use. No polymerization reactions.

**10.4. Conditions to Avoid.**

Avoid overheating. Avoid the accumulation of electrostatic charges. Avoid any ignition source.

**10.5. Incompatible Materials.**



If used according to the indications, the Medical Device is compatible with regular components of the devices to be treated.

#### 10.6. Hazardous Decomposition Products.

As a result of thermal decomposition, or in case of fire, gases and vapours dangerous to health can be released.

## SECTION 11. Toxicological Information.

In the absence of the toxicological data on the experimental product itself, the possible hazards to health related to the product have been evaluated based on the properties of the substances contained, according to the criteria provided by the legislation of reference on the classification of hazardous substances. Consider therefore the concentration of the single hazardous substances eventually mentioned in sect. 3, to assess the toxicological effects arising from exposure to the product.

Acute effects: the product is harmful if swallowed and even the smallest amount ingested can cause significant disturbance to health (abdominal pain, nausea, vomiting, diarrhea).

The product will cause serious eye injury and may cause opacity of the cornea, iris lesion, irreversible coloration of the eye.

Acute effects: contact with skin may cause irritation, erythema, oedema, dryness and cracking skin. Inhalation of vapours may cause moderate irritation of the upper respiratory tract. Ingestion may cause health problems, including stomach pain and heartburn, nausea and vomiting.

#### 11.1. Information on Toxicological Effects.

##### Data referring to the mixture:

ACUTE INHALATION TOXICITY: Data not available.

ACUTE ORAL TOXICITY: Harmful if swallowed due to its composition specified in section 3.2 .

ACUTE DERMAL TOXICITY: Data not available.

SKIN CORROSION/ IRRITATION: irritating to the skin due to its composition specified in section 3.2.

SEVERE EYE LESIONS/SEVERE EYE IRRITATIONS: it causes serious eye lesions due to its composition specified in section 3.2.

IRRITATION OF THE RESPIRATORY TRACT: Data not available.

RESPIRATORY OR SKIN SENSITISATION: it may trigger an allergic reaction due to SUBTILISIN (see section 3.2)

CARCINOGENICITY: Data not available.

MUTAGENICITY OF GERM CELLS: Data not available.

REPRODUCTIVE TOXICITY: Data not available.

SPECIFIC TOXICITY TO TARGET ORGANS (STOT)- SINGLE EXPOSURE: Data not available.

SPECIFIC TOXICITY TO TARGET ORGANS (STOT)- REPEATED EXPOSURE: Data not available.

DANGER IN THE CASE OF SUCTION: Data not available.

##### Data referred to the hazardous substances in the mixture:

###### ETHANE-1,2-DIOL

LD50 (Oral): 7712 mg/kg Rat (Source:site of dissemination ECHA). Harmful if swallowed as per Annex VI of Reg. 1272/2008 CLP.

###### ISOPROPANOL

SEVERE DAMAGE TO THE EYE/EYE IRRITATION: irritating, in vivo test on rabbit, OECD T 405;

SPECIFIC TOXICITY TO TARGET ORGANS (STOT)- SINGLE EXPOSURE: data not available;

SPECIFIC TOXICITY TO TARGET ORGANS (STOT)- REPEATED EXPOSURE: NOEC: 5000 ppm, rat, OECD TG 413.

###### DIDECYLDIMETHYLAMMONIUM CHLORIDE

LD50 (Oral). 238 mg/kg Rat (Method: OECD TG 401)

SKIN CORROSION/ IRRITATION: corrosive, in vivo test on rabbit (Method: OECD TG 404).

###### SUBTILISIN

###### ACUTE TOXICITY

LD50 (Oral). 1800 mg/kg Rat (Method: OECD TG 401)

SKIN CORROSION/ IRRITATION: slightly irritating to the skin, in vivo test on rabbit (Method: OECD TG 404)

SEVERE DAMAGE TO THE EYE/EYE IRRITATION: slightly irritating, in vivo test on rabbit (Method: OECD TG 405)

RESPIRATORY OR SKIN SENSITISATION: it may trigger allergic or asthmatic symptoms or difficulties in breathing if inhaled as per Annex VI of Reg. 1272/2008 CLP.

SPECIFIC TOXICITY TO TARGET ORGANS (STOT)- SINGLE EXPOSURE: it may irritate the respiratory tract as per Annex VI of Reg. 1272/2008 CLP.

POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED  
ACUTE TOXICITY  
LD50 (Oral). 500 mg/kg Rat (Method: OECD TG 423)  
SKIN CORROSION/ IRRITATION: non irritating to the skin, in vivo test on rabbit (Method OECD TG 404)  
SEVERE DAMAGE TO THE EYE/EYE IRRITATION: irritating, in vivo test on rabbit, (Method OECD TG 405).

## SECTION 12. Ecological Information.

The product is to be regarded as dangerous for the environment and highly toxic to aquatic organisms.

### 12.1. Toxicity.

#### DIDECYLDIMETHYLAMMONIUM CHLORIDE

LC50 - Fish.

0.19 mg/l/96h *Pimephales promelas* (Method: US-EPA)

EC50 - Shellfish.

0.062 mg/l/48h *Daphnia Magna* (Method: EPA-FIFRA)

EC50 - Algae / Aquatic plants.

0.026 mg/l/96h *Pseudokirchneriella subcapitata* (Information available in the SDS of the supplier)

Chronic NOEC fish.

0.032 mg/l/34 d *Danio Rerio* (Method: OECD TG 210)

NOEC Chronic shellfish.

0.01 mg/l/21 d *Daphnia Magna* (Reproductive test, method: OECD TG 211)

Chronic toxicity shellfish.

NOEC = 530 mg/l

Species = *Chironomus* sp.

Exposure time: 28 d

Method: OECD TG 218

Toxicity to bacteria:

CE50 = 11 mg/l

Species: active fungi

Respiration inhibitor

Exposure time: 3 h

Method: OECD TG 209

Toxicity for terrestrial organisms:

NOEC >= 1000 mg/kg

Species: *eisenia fetida*

Exposure time: 14 d

Method: OECD TG 207

Toxicity for terrestrial plants:

CE50 = 283 -1670 mg/kg

Exposure time: 14 d

Method: OECD TG 208.

#### POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED /

LC50 - Fish.

> 1 mg/l/96h *Leuciscus Idus* (Information available in the SDS of the supplier)

EC50 - Shellfish.

> 1 mg/l/48h Information available in the SDS of the supplier

EC50 - Algae / Aquatic plants.

> 1 mg/l/72h Information available in the SDS of the supplier

Microorganisms/Effects on active fungi:

CE10 (17 h) > 10.000 mg/l (DIN 38412 part 8).

**ETHANE-1,2-DIOL**

LC50 - Fish.

72860 mg/l/96h Pimephales promelas (Source: published on the site of dissemination of the ECHA)

EC50 - Shellfish.

&gt; 100 mg/l/48h Daphnia magna (Method: OECD Guideline 202)

**ISOPROPANOL**

LC50 - Fish.

9640 mg/l/96h Pimephales promelas (Equivalent method or similar to OECD TG 203)

EC50 - Shellfish.

&gt; 10000 mg/l/48h (24h) Daphnia magna (Equivalent method or similar to OECD TG 202)

EC50 - Algae / Aquatic plants.

1800 mg/l/72h (7d) Scenedesmus quadricauda (Published on ECHA website, no reference guidelines)

**SUBTILISIN**

LC50 - Fish.

8.2 mg/l/96h Oncorhynchus mykiss (Method: OECD TG 203)

EC50 - Shellfish.

0.306 mg/l/48h Daphnia Magna (Method: OECD TG 202)

EC50 - Algae / Aquatic plants.

0.83 mg/l/72h Pseudokirchnerella subcapitata (Method: OECD TG 201)

**12.2. Persistence and Degradability.**

ISOPROPYL ALCOHOL: Rapidly biodegradable (EU Method C.5)

DIDECYLDIMETHYLAMMONIUM CHLORIDE (Information available in SDS of the supplier)

Stability in water: abiotic degradation, hydrolytically stable (Method EPA-FIFRA)

Modified Sturm essay: 72%

Rapidly degradable

Experiment duration: 28 d

Method: OECD TG 301 B

Die-Away test: 93.3%

Experiment duration: 28 d

OECD Confirmatory Test: 91%

Experiment duration: 24 - 70 d

Method: OECD TG 303 A.

OLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED

Disposal Considerations:

&gt;= 90% bismuth active substance (Method: OECD 301E)

Analogy: assessment deriving from chemically similar products.

> 60% CO<sub>2</sub> formation of theoretical value (28d) (Method: OECD 301B; ISO 9439; 92/69/EEC, C.4-C)

Easily biodegradable

Analogy: assessment deriving from chemically similar products.

ETHANE-1,2-DIOL: Rapidly Biodegradable.

ISOPROPANOL: Rapidly Biodegradable.

DIDECYLDIMETHYLAMMONIUM CHLORIDE: Rapidly Biodegradable.

SUBTILISIN: Rapidly Biodegradable.

POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED /: Rapidly Biodegradable.

**12.3. Bioaccumulation Potential.**

POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED: accumulation in organisms is not expected (Information available in the SDS of the supplier).

#### 12.4. Mobility in Soil.

POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED: the substance does not evaporate from the water surface in the environment. Absorption in solid soil phase is possible.

#### 12.5. Results of PBT and vPvB Assessment.

Based on the available data, the product does not contain substances classified as PBT or vPvB in percentage greater than 0.1 %.

#### 12.6. Other Adverse Effects

POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-TRIDECYL-.OMEGA.-HIDROXY-,BRANCHED (Information available in SDS of the supplier)

Chemical oxygen demand (COD): 2100 mg/g

With correct insertion of small concentrations in suitable biological purification plants, there should be no inconveniences during the active fungi degradation activity. Do not insert the product in the water without preventive treatment.

## SECTION 13. Disposal Considerations.

#### 13.1. Methods of Waste Treatment.

Product residues should be considered special hazardous waste. The dangerousness of the wastes that contain part of this product should be evaluated according to the legislative provisions proposed in the Legislative Decree no. 152/2006 and subsequent amendments.

Disposal should be entrusted to an authorized waste management firm, in compliance with national and local regulations.

Avoid absolutely to disperse the product into the soil, in sewer systems or water courses.

Waste transportation may be subject to ADR.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport Information.

#### 14.1. ONU Number

(ADR, RID, IMDG Code, ICAO): UN 2924

#### 14.2. ONU shipping name

(ADR, RID): FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ISOPROPANOL; DIDECYLDIMETHYLAMMONIUM CHLORIDE)

(IMDG Code, ICAO): FLAMMABLE LIQUID, CORROSIVE, N.O.S. (PROPAN-2-OL; DIDECYLDIMETHYLAMMONIUM CHLORIDE)

#### 14.3. Transportation hazard classification

(ADR, RID):

Class: 3

Label: 3 (8)



(IMDG Code):

Class: 3

Label: 3 (8)



(ICAO):



Class: 3

Label: 3 (8)

For air transport, the mark of environmental hazard is compulsory only for the N. UN 3077 and 3082.

**14.4. Packing group**

(ADR, RID, IMDG Code, ICAO): III

**14.5. Dangers for the environment : YES****14.6. Special precautions for users**

Dangerous goods must be consigned for loading/transport according to the relevant requirements depending on the chosen transport means: road (A.D.R.), rail (RID), by sea (IMDG Code), air (IATA) and the relevant national provisions. Products should be transported in their original packaging and in any case in packages that are made from materials resistant to their content and unlikely to cause dangerous reactions with it. People loading and unloading dangerous goods must be trained on all the risks deriving from the substance and on all actions to be taken in the event of emergencies.

**14.7. Transport of bulk cargo according to the attachment II of MARPOL 73/78 and the IBC code**

(ADR, RID, ICAO): not applicable.

(IMDG Code): not applicable.

**Additional indications**

(ADR, RID):

Nr. Kemler:	38
Limited Quantity:	5 L – 30 kg lordi
Code of restriction in tunnels:	(D/E)

(IMDG Code):

EMS:	F-E, S-C
Marine Pollutant:	YES
Limited Quantity:	5 L – 30 kg gross

(ICAO):

Cargo:

Packaging Instructions:	365	Maximum quantity:	60 L
Pass.:			
Packaging Instructions:	354	Maximum quantity:	5 L
Special instructions:	A3		

**SECTION 15. Regulatory Information.****15.1. Standards and Legislation on Health, Safety and Environmental Specifications for the Substance or Mixture.**Seveso Category. 6. FLAMMABLERestrictions concerning the product or substances contained as per Annex XVII Regulation (EC) 1907/2006.

Product:

Point. *3. The substances or the liquid mixtures that are considered dangerous for the purposes of Directive 1999 /45/CE or that match the criteria for one of the following classes or categories of danger referred to in Annex I to Council Regulation (EC) no. 1272/2008:*

- a) classes of danger from 2.1 to 2.4 , 2.6 and 2.7 , 2.8 types A and B, 2.9 , 2.10 , 2.12 , 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;*
- b) classes of danger from 3.1 to 3.6 , 3.7 harmful effects on sexual function and fertility or development, 3.8 effects other than narcotic effects, 3.9 and 3.10;*
- c) hazard class 4.1 ; d) hazard class 5.1 .*

Point. *40 Substances classified as flammable gases of category 1 or 2, flammable liquids of category 1, 2 or 3, flammable solids of category 1 or 2, substances and mixtures which, in contact with water, release flammable gases of category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids of category 1, even if not listed in Annex VI, part 3 of Regulation (EC) n. 1272/2008.*

Candidate List Substances (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to export notification Reg. (CE) 649/2012:

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Public health control.

Workers exposed to this chemical agent must undergo health checks for the health surveillance carried out in accordance with the provisions of art. 41 of Legislative Decree no. 81 of 9 April 2008, unless the risk to the safety and health of the worker has been assessed irrelevant, in accordance with art. 224 paragraph 2.

Law Decree 152/2006 and subsequent amendments.

Emissions:

TAB. D Class 3 01,40 %  
TAB. D Class 4 06,00 %

Ingredients according to Regulation CE NO.648/2004

Lower 5% cationic surfactants  
Between 15% and 30% non ionic surfactants

Enzymes

**15.2. Chemical Safety Assessment.**

A chemical safety assessment for the mixture and substances contained therein was not prepared.

**SECTION 16. Other Information.**

Text of hazard indications (H) mentioned in sections 2-3 of this sheet:

<b>Flam. Liq. 2</b>	Flammable liquid, Category 2
<b>Flam. Liq. 3</b>	Flammable liquid, Category 3
<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Acute Tox. 3</b>	Acute toxicity, category 3
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Eye Dam. 1</b>	Severe eye damage, category 1
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Resp. Sens. 1</b>	Respiratory sensitization, category 1
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>H225</b>	Liquid and vapors highly flammable.
<b>H226</b>	Flammable liquid and vapours.
<b>H361d</b>	Suspected that it might affect the unborn child.
<b>H301</b>	Toxic if swallowed.
<b>H302</b>	Harmful if swallowed.
<b>H332</b>	Harmful if inhaled.
<b>H373</b>	It may damage the organs in case of prolonged or repeated exposure.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye injuries.
<b>H319</b>	Causes severe eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation
<b>H334</b>	It may trigger allergic or asthmatic symptoms or difficulties in breathing if inhaled
<b>H336</b>	May cause drowsiness or dizziness.
<b>H412</b>	Harmful to aquatic organisms with long-term effects.

**Text of risk phrases (R) mentioned in sections 2-3 of this sheet:**

<b>R10</b>	FLAMMABLE
<b>R11</b>	HIGHLY FLAMMABLE.
<b>R20</b>	HARMFUL IF INHALED.
<b>R22</b>	HARMFUL IF SWALLOWED.
<b>R34</b>	CAUSES BURNS.
<b>R36</b>	IRRITATING TO THE EYES.

<b>R37/38</b>	IRRITATING TO THE RESPIRATORY SYSTEM AND THE SKIN.
<b>R41</b>	RISK OF SERIOUS DAMAGE TO EYES.
<b>R42</b>	MAY CAUSE SENSITISATION BY INHALATION.
<b>Repr. Cat. 3</b>	Reproductive toxicity, development, category 3.
<b>R63</b>	POSSIBLE RISK OF HARM TO THE UNBORN CHILD.
<b>R67</b>	VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS

**Training for workers:**

Training of workers must provide content, updates, and duration relating to the types of risks assigned to the specific work areas, according to the regulations laid down in Legislative Decree 81/2008.

**LEGEND:**

- ADR: European Agreement concerning the transport of dangerous goods by road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Concentration that has effect on 50% of the population subject to test
- CE NUMBER: Identification number in ESIS (European archive of existing substances)
- CLP: Regulation CE 1272/2008
- DNEL: Derived no effect level.
- EmS: Emergency Schedule
- GHS: Harmonized global system for the classification and labelling of chemical products
- IATA DGR: Regulation for the transport of dangerous goods of International Air Transport Association
- IC50: Concentration of immobilization of 50% of the population subject to test
- IMDG: International maritime code for transport of dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identification number in the Annex VI of the CLP
- LC50: Lethal concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational exposure level
- PBT: Persistent, bioaccumulative and toxic according to REACH
- PEC: Predictable environmental concentration
- PEL: Predictable exposure level
- PNEC: Predictable no effect concentration
- REACH: Regulation CE 1907/2006
- RID: Regulation for the international transport of dangerous goods by train
- TLV: Threshold value
- TLV CEILING: Concentration that must not be exceeded during any time of exposure during work.
- TWA STEL: Short-term exposure limit
- TWA: Weighed average exposure limit
- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulative according to REACH.

**GENERAL BIBLIOGRAPHY:**

1. Directive 1999/45/EC and subsequent amendments
2. Directive 67/548/EEC and subsequent amendments and adjustments
3. European Parliament Regulation (EC) 1907/2006 (REACH)
4. European Parliament Regulation (EC) 1272/2008 (CLP)
5. European Parliament Regulation (EC) 790/2009 (I Atp. CLP)
6. European Parliament Regulation (EC) 453/2010
7. European Parliament Regulation (EC) 286/2011 (II Atp. CLP)
8. The Merck Index. Ed. 10
9. Handling Chemical Safety
10. Niosh - Registry of Toxic Effects of Chemical Substances
11. INRS - Fiche Toxicologique
12. Patty - Industrial Hygiene and Toxicology
13. N.I. Sax - Dangerous properties of Industrial Materials-7 Ed., 1989
14. Agency ECHA website

Note for user: The information contained in this sheet are based on knowledge achieved on the date of the last version. User 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, the user must, under his own responsibility, comply with



the current health and safety laws and regulations. We accept no liability for any unauthorised or improper use. Provide adequate training for personnel assigned to use chemical products.

Changes made since the previous revision.

Changes have been made to the following sections:

01/ 02 / 03 / 04 / 05 / 06 / 07 / 08 / 10 / 11 / 12 / 13 / 14 / 15 / 16.

Ed.	Rev.	Date	STATUS AND REASON OF REVISIONS
1	0	18.02.2002	First issue
1	1	27.06.2003	Different concentration of use
1	2	26.07.2007	Update of regulations
1	3	01.09.2008	Improvement of surfactant functionalities
1	4	17.10.2008	Modifications to points 9 and 14
1	5	05.03.2010	Compliance to EU Directive 2007/47/EC
1	6	13.09.2011	Data update par. 3
1	7	17.11.2011	Compliance to the 453/2010 Regulation
1	8	30.10.2015	Adaptation to REACH and CLP Regulation, company name change with logo
1	9	17.02.2016	Specification of flashpoint