

# Safety Data Sheet

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

### 1.1. Product identifier

Code: 0030661  
Product name: PULIMUFFE  
Chemical name and synonym: PULIMUFFE

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

Sector of use: SU22 – Professional uses SU21 – Consumer uses

Uses advised against: Do not use on aluminum, light metals and alloys. Do not use on fabrics and furnishings.  
Do not use for purposes other than those indicated

Category of product: PC35 – Washing and cleaning products (including solvent-based products)

Intended use: Cleaner for mold and algae removal

### 1.3. Details of the supplier of the safety data sheet

Name: MARBEC S.R.L.  
Full address: VIA CROCE ROSSA 5/i  
District and Country: 51037 MONTALE (PISTOIA)  
ITALY  
Tel. +390573/959848  
Fax +390573/959385

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

info@marbec.it

### 1.4. Emergency telephone number

For urgent inquiries refer to

MARBEC srl  
+390573959848 h8.30-13 h14-18 or +393357267940  
Telephone number of Poison Centers active 24/24 hours  
CAV IRCSS Fondazione Maugeri – Pavia 0039-0382-24444  
CAV Ospedali Riuniti – Bergamo 0039-800-883300  
CAV Ospedale Niguarda Ca' Granda – Milano 0039-02-66101029  
CAV Ospedale Careggi- Firenze 0039-055-7947819  
CAV Policlinico Gemelli – Roma 0039-06-3054343  
CAV Policlinico Umberto I – Roma 0039-06 49978000  
CAV Ospedale Cardarelli – Napoli 0039-081 5453333

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
Hazardous to the aquatic environment, acute toxicity, category 1	H400	Very toxic to aquatic life.
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:



Signal words: Danger

Hazard statements:

<b>H314</b>	Causes severe skin burns and eye damage.
<b>H400</b>	Very toxic to aquatic life.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>EUH206</b>	Warning! Do not use together with other products. May release dangerous gases (chlorine).

Precautionary statements:

<b>P260</b>	Do not breathe dust / fume / gas / mist / vapours / spray.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
<b>P280</b>	Wear protective gloves/ protective clothing / eye protection / face protection.
<b>P310</b>	Immediately call a POISON CENTER / doctor / . . .
<b>P273</b>	Avoid release to the environment.
<b>P301+P330+P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**Contains:** Sodium hypochlorite 14/15% V°**Ingredients in accordance with Regulation (EC) No 648/2004**

Chlorine-based brighteners &lt; 5 %, sodium hydroxide &lt;1%, non-ionic surfactants &lt;5%, perfume.

**2.3. Other hazards**

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

The product does not contain substances with endocrine disrupting properties in concentration  $\geq 0.1\%$ .**SECTION 3. Composition/information on ingredients**

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

**3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
<b>N,N-dimethyl tetradecylamine N-oxide</b> CAS 3332-27-2 CE 222-059-3 INDEX - Reg. REACH 01-2119949262-37	0,5 ≤ x < 1	Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411 LD50 Orale: 1064 mg/kg
<b>SODIUM HYPOCHLORITE 14/15% V° ( 16% - active chlorine )</b> CAS 7681-52-9 EC 231-668-3 INDEX 017-011-00-1 Reg. no. 01-2119488154-34-****	9 ≤ x < 25	Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH031, Classification note according to Annex VI to the CLP Regulation: B

The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures****4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

**SECTION 5. Firefighting measures****5.1. Extinguishing media**

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

**SUITABLE EXTINGUISHING EQUIPMENT**

Choose the most appropriate extinguishing equipment for the specific case.

**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**

The product is neither flammable nor combustible.

**5.3. Advice for firefighters****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**

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

**7.2. Conditions for safe storage, including any incompatibilities**

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany):

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According to Annex II to REACH - Regulation 2015/830

**7.3. Specific end use(s)**

Information not available

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters****SODIUM HYPOCHLORITE**

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00021	mg/l
Normal value in marine water	0,000042	mg/l
Normal value for water, intermittent release	0,00026	mg/l

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

Route of exposure	Effects on consumers			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,26 mg/kg bw/d				
Inhalation	3,1 mg/m3	3,1 mg/m3	1,55 mg/m3	1,55 mg/m3	3,1 mg/m3	3,1 mg/m3	1,55 mg/m3	1,55 mg/m3

**N,N-dimethyl tetradecylamine N-oxide**

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0335	mg/l
Normal value in marine water	0,00335	mg/l
Normal value for fresh water sediment	5,24	mg/kg/d
Normal value for marine water sediment	0,524	mg/kg/d
Normal value for water, intermittent release	0,0335	mg/l
Normal value of STP microorganisms	24	mg/l
Normal value for the food chain (secondary poisoning)	0,0000111	mg/kg
Normal value for the terrestrial compartment	1,02	mg/kg/d

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

Route of exposure	Effects on consumers			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	0,44 mg/kg						
Inhalation			VND	1,53 mg/m3			VND	6,2 mg/m3
Skin			VND	5,5 mg/kg			VND	11 mg/kg

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

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

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According to Annex II to REACH - Regulation 2015/830

Provide an emergency shower with face and eye wash station.

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

es. in PVC, Neoprene or butyl rubber.

For the final choice of the material of the work gloves, the following must be considered: compatibility, degradation, breaking time and permeation.

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

In case of prolonged exposure, gloves must have the following characteristics:

Minimum breakthrough time: > 480 min.

Minimum thickness: 0.7 mm

In the event of a short-term exposure (splash protection) gloves must have the following characteristics:

Minimum breakthrough time: 30 min.

Minimum thickness: 0.4 mm.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

Not necessary, unless otherwise indicated in the chemical risk assessment. Under certain conditions (confined spaces, large quantities and high temperatures) use half-masks compliant with the UNI-EN140 standard equipped with gas filters and combined, compliant with the UNI-EN 141 standard and of the A1B1E1K1-FFP3 type.

**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**

Appearance	liquid
Colour	straw-coloured
Odour	pungent
Melting point / freezing point	Not applicable
Initial boiling point	Not available
Flammability	incombustible
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Flash point	> 90 °C
Auto-ignition temperature	Not available
pH	12
Kinematic viscosity	Not available
Solubility	soluble in water
Partition coefficient: n-octanol/water	Not available
Vapour pressure	Not available
Density and/or relative density	1,05 kg/l
Relative vapour density	Not available
Particle characteristics	Not applicable

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

**9.2. Other information**

## 9.2.1. Information with regard to physical hazard classes

Information not available

## 9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU) 0,03 % - 0,31 g/litre

Explosive properties non-explosive

Oxidising properties non-oxidizing

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

Information not available

**10.2. Chemical stability**

Information not available

**10.3. Possibility of hazardous reactions**

Contact with strong acids causes the development of toxic gases.

**10.4. Conditions to avoid**

Information not available

**10.5. Incompatible materials**

Acids

**10.6. Hazardous decomposition products**

Information not available

**SECTION 11. Toxicological information****11.1. Information on toxicological effects**Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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According to Annex II to REACH - Regulation 2015/830

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

SODIUM HYPOCHLORITE 14/15% V°

LD50 (Oral) &gt; 2000 mg/kg Rat

LD50 (Dermal) &gt; 10500 mg/kg Rabbit

N,N-dimethyl tetradecylamine N-oxide

LD50 (Oral): 1064 mg/kg ATE rat oral

SKIN CORROSION / IRRITATION

Corrosive for the skin

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

Information not available



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According to Annex II to REACH - Regulation 2015/830

Skin sensitization

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

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According to Annex II to REACH - Regulation 2015/830

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

**SECTION 12. Ecological information**

This product is dangerous for the environment and highly toxic for aquatic organisms.

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**

SODIUM HYPOCHLORITE 14/15% V°

LC50 - for Fish

0,059 mg/l/96h Oncorhynchus mykiss

EC50 - for Crustacea

0,141 mg/l/48h Daphnia magna

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According to Annex II to REACH - Regulation 2015/830

EC50 - for Algae / Aquatic Plants	0,04 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Crustacea	0,007 mg/l ostrica, sea water (7 days)
Chronic NOEC for Algae / Aquatic Plants	0,364 mg/l Algae fresh water

N,N-dimethyl tetradecylamine N-oxide

LC50 - for Fish	2,67 mg/l/96h
EC50 - for Crustacea	3,1 mg/l/48h
EC50 - for Algae / Aquatic Plants	0,19 mg/l/72h
Chronic NOEC for Fish	0,067 mg/l

**12.2. Persistence and degradability**

SODIUM HYPOCHLORITE 14/15% V°

Sodium hypochlorite is a strong oxidant. It will react with organic substances present in the soil and sediments, degrading rapidly. Sodium hypochlorite is substantially removed in biological treatment processes.

SODIUM HYPOCHLORITE 14/15% V°

Solubility in water 1000 - 10000 mg/l

Degradability: information not available

**12.3. Bioaccumulative potential**

SODIUM HYPOCHLORITE 14/15% V°

Partition coefficient: n-octanol/water -3,42

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

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

**12.6 Properties of interference with the endocrine system**

According to the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disrupters with effects on the environment being evaluated.

**12.7. Other adverse effects**

Information not available

**SECTION 13. Disposal considerations****13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations. Waste transportation may be subject to ADR restrictions.

**CONTAMINATED PACKAGING**

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

**SECTION 14. Transport information****14.1. UN number**

ADR / RID, IMDG, 3082

IATA:

ADR / RID: If transported in simple or internal packaging with a capacity of  $\leq 5\text{Kg}$  or 5L, the product is not subject to ADR / RID provisions, as required by Special Provision 375.

IMDG: If transported in simple or internal packaging with a capacity of  $\leq 5\text{Kg}$  or 5L, the product is not subject to the provisions of the IMDG Code, as required by Section 2.10.2.7.

IATA: If transported in simple or internal packaging with a capacity of  $\leq 5\text{Kg}$  or 5L, the product is not subject to other IATA provisions, as required by Special Provision A197.

**14.2. UN proper shipping name**

ADR / RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYPOCHLORITE, SODIUM HYDROXIDE) MIXTURE

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYPOCHLORITE, SODIUM HYDROXIDE), MARINE POLLUTANT MIXTURE

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYPOCHLORITE, SODIUM HYDROXIDE) MIXTURE

**14.3. Transport hazard class(es)**

ADR / RID: Class: 9 Label: 9



IMDG: Class: 9 Label: 9



IATA: Class: 9 Label: 9

**14.4. Packing group**

ADR / RID, IMDG, III

IATA:

**14.5. Environmental hazards**

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

IATA: Environmentally  
Hazardous**14.6. Special precautions for user**

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 L	Tunnel restriction code: (-)
	Special Provision: -		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Pass.:	Maximum quantity: 450 L	Packaging instructions: 964
	Special Instructions:	A97, A158, A197	

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

Information not relevant

**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EC: 41

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

<u>Product</u>	
Point	3-40

Contained substance

Point	75
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Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Not applicable

Substances in Candidate List (Art. 59 REACH)On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.Substances subject to authorisation (Annex XIV REACH)

None

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

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.

**15.2. Chemical safety assessment**

A chemical safety assessment has been prepared for the following substances in the mixture:  
Sodium hypochlorite 14-15% v someone.

**SECTION 16. Other information**

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

<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>Aquatic Chronic 1</b>	Hazardous to the aquatic environment, chronic toxicity, category 1
<b>Aquatic Chronic 2</b>	Hazardous to the aquatic environment, chronic toxicity, category 2
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye damage.
<b>H400</b>	Very toxic to aquatic life.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>EUH031</b>	Contact with acids liberates toxic gas.
<b>EUH206</b>	Warning! Do not use together with other products. May release dangerous gases (chlorine).

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods

**Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
  14. Regulation (EU) 2018/669 (XI Atp. CLP)
  15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
  16. Regulation (EU) 2019/521 (XII Atp. CLP)
- 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.

Product's classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.

**Changes to previous review:**

The following sections were modified:

01 / 02 / 03 / 09 / 11 / 12 / 15 / 16.