



PIGAL s.r.l.

Revision nr. 2

Dated 16/11/2016

Printed on 16/11/2016

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**SGRASSATORE TECNICO ULTRA
CONCENTRATO**

Safety data sheet

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

1.1. Product identifier

Code: F00043-(05050 e seg.)
Product name: SGRASSATORE TECNICO ULTRA CONCENTRATO

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

Intended use: concentrate detergent waterborne, industrial and household cleaning.

1.3. Details of the supplier of the safety data sheet

Name: PIGAL s.r.l.
Full address: Via G. Rossa, 2
District and Country: 40053 VALSAMOGGIA - Crespellano (BO)
ITALIA
Tel. +39 051969068
Fax +39 051969353

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

health.safety@pigal.it; pigalab@pigal.it

1.4. Emergency telephone number

For urgent inquiries refer to +39 051969068 office hours (8.30-13; 14-17.30) 118 (contact your local poison control center)

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 EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:

Skin Corr. 1B H314
Eye Dam. 1 H318

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

2.2. Label elements.

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

Hazard pictograms:

**SGRASSATORE TECNICO ULTRA
CONCENTRATO**

Signal words: Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P280 Wear protective gloves, eye protection.
P310 Immediately call a POISON CENTER or doctor / physician.
P405 Store locked up.
P501 Dispose of contents / container according to local regulations.
P303+P361+P353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Contains: SODIUM METASILICATE
ETHANOLAMINE**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. %.	Classification 1272/2008 (CLP).
SODIUM METASILICATE		
CAS. 10213-79-3	4 - 4,5	Met. Corr. 1 H290, Skin Corr. 1B H314, STOT SE 3 H335
EC. 229-912-9		
INDEX. -		
Reg. no. 01-2119449811-37		
DIPROPYLENE GLYCOL MONOMETHYL ETHER		
CAS. 34590-94-8	2 - 2,5	Substance with a community workplace exposure limit.
EC. 252-104-2		
INDEX. -		
Reg. no. 01-2119450011-60		



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ETHANOLAMINE

CAS. 141-43-5

2 - 2,5

Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox.
4 H332, Skin Corr. 1B H314, STOT SE 3 H335

EC. 205-483-3

INDEX. 603-030-00-8

Reg. no. 01-2119486455-28

Note: Upper limit is not included into the range.

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.

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters.

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire-fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. 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.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

United Kingdom EH40/2005 Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended).

Éire Code of Practice Chemical Agent Regulations 2011.

OEL EU Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.

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TLV-ACGIH ACGIH 2012

SODIUM METASILICATE
Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	EU	10			
OEL	EU	3			

Predicted no-effect concentration - PNEC.

Normal value in fresh water	7,5	mg/l
Normal value for water, intermittent release	7,5	mg/l
Normal value in marine water	1	mg/l
Normal value of STP microorganisms	1000	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
Oral.			VND	0,74 mg/kg				
Inhalation.			VND	1,55 mg/m3			VND	6,22 mg/m3
Skin.			VND	0,74 mg/kg			VND	1,49 mg/kg

ETHANOLAMINE
Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		7,5	3	15	6	
OEL	IRL	2,5	1	7,6	3	SKIN
OEL	EU	2,5	1	7,6	3	SKIN
WEL	UK	2,5	1	7,6	3	SKIN

Predicted no-effect concentration - PNEC.

Normal value for the terrestrial compartment	0,035	mg/kg
Normal value in fresh water	0,085	mg/l
Normal value for water, intermittent release	0,025	mg/l
Normal value in marine water	0,0085	mg/l
Normal value for fresh water sediment	0,425	mg/kg
Normal value for marine water sediment	0,0425	mg/kg
Normal value of STP microorganisms	100	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
Oral.			VND	3,75 mg/kg				
Inhalation.			2 mg/m3	VND			3,3 mg/m3	VND
Skin.			VND	0,24 mg/kg			VND	1 mg/kg

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		606	100	909 (C)	150 (C)	
OEL	IRL	308	50			SKIN
OEL	EU	308	50			SKIN
WEL	UK	308	50			SKIN



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Predicted no-effect concentration - PNEC.

Normal value for the terrestrial compartment	2,74	mg/kg
Normal value in fresh water	19	mg/l
Normal value for water, intermittent release	190	mg/l
Normal value in marine water	1,9	mg/l
Normal value for fresh water sediment	70,2	mg/kg
Normal value for marine water sediment	7,02	mg/kg
Normal value of STP microorganisms	4168	mg/l

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
Oral.			VND	1,67 mg/kg bw/d				
Inhalation.			VND	37,2 mg/m3				
Skin.			VND	15 mg/kg				

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

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

TLV of solvent mixture: 7,5 mg/m3.

8.2. Exposure controls.

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

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

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

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

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

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC 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

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance	liquid
Colour	straw-coloured
Odour	mild
Odour threshold.	Not available.
pH.	12,5
Melting point / freezing point.	Not available.
Initial boiling point.	100 °C.
Boiling range.	Not available.
Flash point.	> 60 °C.
Evaporation Rate	Not available.
Flammability of solids and gases	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1,040 Kg/l
Solubility	miscible with water
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

VOC (Directive 1999/13/EC) :	4,01 % - 41,68 g/litre.
VOC (volatile carbon) :	1,93 % - 20,02 g/litre.

SECTION 10. Stability and reactivity.

10.1. Reactivity.

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

SODIUM METASILICATE: aqueous solutions behave like strong bases; they can attack aluminium, zinc, tin and their alloys.

DIPROPYLENE GLYCOL MONOMETHYL ETHER: may react with oxidising agents. When heated to decomposition it releases harsh and irritating fumes and vapours.

10.2. Chemical stability.

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

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.



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SODIUM METASILICATE: they react violently with acids.

ETHANOLAMINE: can react dangerously with: acrylonitrile, chloroepoxypropane, chlorosulphuric acid, hydrogen chloride, iron-sulphur compounds, acetic acid, acetic anhydride, mesityl oxide, nitric acid, sulphuric acid, strong mineral acids, vinyl acetate, cellulose nitrate.

10.4. Conditions to avoid.

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

ETHANOLAMINE: avoid exposure to air and sources of heat.

10.5. Incompatible materials.

ETHANOLAMINE: iron, strong acids and strong oxidising agents.

10.6. Hazardous decomposition products.

ETHANOLAMINE: nitrogen oxides, carbon oxides.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

This product is corrosive and causes serious burns and vesicles on the skin, which can arise even after exposure. Burns are very stinging and painful. Upon contact with eyes, it may cause serious harm, such as cornea opacity, iris lesions, irreversible eye coloration. Possible vapours are caustic for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours.

Exposure symptoms may include: sting, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness.

If swallowed, it may cause mouth, throat and oesophagus burns, sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible.

This product may cause serious ocular lesions, cornea opacity, iris lesions, irreversible eye coloration.

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation.

Vapour inhalation may moderately irritate the upper respiratory tract. Contact with skin may cause slight irritation.

Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

SODIUM METASILICATE PENTAHYDRATE

Skin irritation (OECD 404): Corrosive (Determined on rat)

Eye irritation (OECD 405): Corrosive (Determined on rabbit).

Dipropyleneglycolmonomethyl ether - May cause slight temporary eye irritation. It is unlikely to produce corneal lesions.

Excessive exposure may cause irritation to the upper respiratory tract (nose and throat).

Symptoms of excessive exposure may be anesthetic or narcotic effects: dizziness and drowsiness may occur.

ETHANOLAMINE - The product is corrosive to the eyes, extremely irritating to the skin and mucous membranes and can cause serious damage.

SODIUM METASILICATE

LD50 (Oral). > 1152 mg/kg Mouse

LD50 (Dermal). > 5000 mg/kg Rat

LC50 (Inhalation). > 2,06 mg/l Rat (4h)

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LD50 (Oral). > 5000 mg/kg Rat

LD50 (Dermal). 9510 mg/kg Rabbit

LC50 (Inhalation). 3,35 mg/l Rat (7 h)

ETHANOLAMINE

LD50 (Oral). 1515 mg/kg Rat

LD50 (Dermal). 2504 mg/kg Rat

LC50 (Inhalation). 1,48 mg/l Rat (4h)

SECTION 12. Ecological information.

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

12.1. Toxicity.**SODIUM METASILICATE**

LC50 - for Fish.

2320 mg/l/96h Pesce - *Gambusia affinis*

EC50 - for Crustacea.

1700 mg/l/48h *Daphnia magna*

EC50 - for Algae / Aquatic Plants.

207 mg/l/72h *Scenedesmus subspicatus*

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LC50 - for Fish.

> 1000 mg/l/96h *Poecilia reticulata*

EC50 - for Crustacea.

1919 mg/l/48h *Daphnia magna*

Chronic NOEC for Crustacea.

> 0,5 mg/l *Daphnia magna*

ETHANOLAMINE

LC50 - for Fish.

349 mg/l/96h Pesce

EC50 - for Crustacea.

65 mg/l/48h *Daphnia magna*

EC50 - for Algae / Aquatic Plants.

2,5 mg/l/72h Alga

12.2. Persistence and degradability.

SODIUM METASILICATE PENTAHYDRATE - Soluble inorganic silicate depolymerize rapidly in molecular species indistinguishable from natural dissolved silica.

They combine to ions of Ca, Mg, Fe, Al and others to form insoluble compounds similar to the constituents of natural soils.

Dipropylenglycolmonomethyl ether - BIODEGRADABILITY: 75% readily biodegradable (OECD 301 F - 28 d).

ETHANOLAMINE - Biodegradation > 90% (21 days).

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Rapidly biodegradable.

ETHANOLAMINE

Rapidly biodegradable.

Mixture of surfactants: biodegradability > 90%.

12.3. Bioaccumulative potential.

SODIUM METASILICATE PENTAHYDRATE - Does not accumulate.

ETHANOLAMINE - Slightly bioaccumulative.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Partition coefficient: n-octanol/water.

1,01 mg/l

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BCF.
< 100

12.4. Mobility in soil.

Dipropyleneglycolmonomethyl ether - Constant Henry's Law: 1,6E-07 atm * m3 / mol .; 25 ° C estimated.
ETHANOLAMINE - The product has very high potential for mobility.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Partition coefficient: soil/water.

0,28 mg/l stimato

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. Other adverse effects.

Information not available.

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

The valid EEC waste code are largely source-related; the manufacturer is, therefore, unable to specify waste codes for products used in various sectors.
CER-code (suggested): 20 01 30.

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

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Avoid littering. Do not contaminate soil, sewers and waterways.

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.

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations. These goods must be packed in their original packagings or in packagings made of materials resistant to their content and not reacting dangerously with it. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Road and rail transport:

ADR/RID Class:	8	UN:	2491
Packing Group:	III		
Label:	8		
Nr. Kemler:	80		
Limited Quantity:	5 L		
Tunnel restriction code:	(E)		
Proper Shipping Name:	ETHANOLAMINE or ETHANOLAMINE SOLUTION		

Carriage by sea (shipping):

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IMO Class: 8 UN: 2491
Packing Group: III
Label: 8
EMS: F-A, S-B
Marine Pollutant: NO
Proper Shipping Name: ETHANOLAMINE or ETHANOLAMINE SOLUTION

Transport by air:

IATA: 8 UN: 2491
Packing Group: III
Label: 8
Cargo:
Packaging instructions: 856 Maximum quantity: 60 L
Pass.:
Packaging instructions: 852 Maximum quantity: 5 L
Special Instructions: A3, A803
Proper Shipping Name: ETHANOLAMINE or ETHANOLAMINE SOLUTION

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

Seveso category. None.

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

Product Point. 3

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

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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.

Ingredients according to Regulation (EC) No 648/2004

less than 5 % anionic surfactants, amphoteric surfactants

Citronellol, Geraniol

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

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

Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
STOT SE 3	Specific target organ toxicity - single exposure, category 3
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration



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- 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 (EU) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EU) 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
- 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
 - ECHA website

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.

Changes to previous review:

The following sections were modified:

01 / 03 / 13 / 14 / 16.