



Safety data sheet

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

1.1. Product identifier

Code: 15/067
Product name: SACHE C/0113

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

Intended use: Water based product, for cleaning and degreasing.

1.3. Details of the supplier of the safety data sheet

Name: CHEMTEC S.r.l
Full address: Via Alberto da Giussano 36/O
District and Country: 20011 CORBETTA (MI)
ITALIA
tel. +39 02 92867461
fax +39 02 87366254

e-mail address of the competent person responsible for the Safety Data Sheet: labo@chemtec.it
Product distribution by: CHEMTEC S.r.l

1.4. Emergency telephone number

For urgent inquiries refer to: +39 02 92867461 in office hours 8.30-12.30 - 13.30-17.30

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.

Hazard classification and indication:

Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.

2.2. Label elements.

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

Hazard pictograms:



Signal words: Warning

Hazard statements:

H319	Causes serious eye irritation.
H315	Causes skin irritation.

Precautionary statements:

P264	Wash the hands thoroughly after handling.
P280	Wear protective gloves / eye protection / face protection.
P302+P352	IF ON SKIN: wash with plenty of water.

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P332+P313 If skin irritation occurs: Get medical advice / attention.

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%.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

Identification.

Conc. %.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

CAS. 34590-94-8

15 - 20

Substance with a community workplace exposure limit.

EC. 252-104-2

INDEX. -

Reg. no. 01-2119450011-60-0000

2-BUTOXYETHANOL

CAS. 111-76-2

5 - 10

Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315

EC. 203-905-0

INDEX. 603-014-00-0

Reg. no. 01-2119475108-36

1-METHOXY-2-PROPANOL

CAS. 107-98-2

5 - 10

Flam. Liq. 3 H226, STOT SE 3 H336

EC. 203-539-1

INDEX. 603-064-00-3

Reg. no. 01-2119457435-35-0000

ETHANOLAMINE

CAS. 141-43-5

1 - 3

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-XXXX

NONIONIC SURFACTANT

CAS. *Proprietary

1 - 3

Acute Tox. 4 H302, Eye Dam. 1 H318

EC. -

INDEX. -

Reg. no. -

AMINES , C12-16 - ALKYLDIMETHYL , N - OXIDE

CAS. -

0,5 - 1,0

Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Acute 1 H400 M=1

EC. 287-011-6

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Note: Upper limit is not included into the range.

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

*Composition is confidential and will be communicated to the competent bodies related to professional secrecy

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.

Follow doctor's indications.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. 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.

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Oral.	VND	1,67 mg/kg bw/d		
Inhalation.	VND	37,2 mg/m3	VND	310 mg/m3
Skin.	VND	15 mg/kg bw/d	VND	65 mg/kg bw/d

1-METHOXY-2-PROPANOL

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	187	50	187	50	SKIN.
VLEP	BEL	375	100	568	150	SKIN.
AGW	DEU	370	100	740	200	
MAK	DEU	370	100	740	200	
VLA	ESP	375	100	568	150	SKIN.
VLEP	FRA	188	50	375	10	SKIN.
WEL	GRB	375	100	560	150	SKIN.
OEL	IRL	375	100	568	150	
TLV	ITA	375	100	568	150	SKIN.
OEL	EU	375	100	568	150	SKIN.
TLV-ACGIH		184	50	368	100	

Predicted no-effect concentration - PNEC.

Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	52,3	mg/kg
Normal value for marine water sediment	5,2	mg/kg
Normal value for water, intermittent release	100	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	4,59	mg/kg

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	3,3 mg/kg				
Inhalation.			VND	43,9 mg/mc	553,5 mg/mc	VND	VND	369 mg/mc
Skin.			VND	18,1 mg/kg			VND	50,6 mg/kg

2-BUTOXYETHANOL

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	98	20	200	40	SKIN.
VLEP	BEL	98	20	246	50	SKIN.
VEL	CHE	49	10	98	20	SKIN.
MAK	CHE	49	10	98	20	SKIN.
AGW	DEU	49	10	196	40	SKIN.
MAK	DEU	49	10	98	20	SKIN.
VLA	ESP	98	20	245	50	SKIN.
VLEP	FRA	49	10	246	50	SKIN.
WEL	GRB	123	25	246	50	SKIN.
OEL	IRL	98	20	246	50	SKIN.
TLV	ITA	98	20	246	50	SKIN.

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OEL	EU	98	20	246	50	SKIN.		
TLV-ACGIH		97	20					
Predicted no-effect concentration - PNEC.								
Normal value in fresh water				8,8		mg/l		
Normal value in marine water				8,8		mg/l		
Normal value for the terrestrial compartment				2,8		mg/kg		
Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers.	Acute systemic	Chronic local	Chronic systemic	Effects on workers	Acute systemic	Chronic local	Chronic systemic
Oral.	VND	13,4 mg/kg/d	VND	3,2 mg/kg/d				
Inhalation.	VND	426 mg/m3			VND	663 mg/m3	VND	98 mg/m3
Skin.	VND	44,5 mg/kg/d	VND	38 mg/kg/d	VND	89 mg/kg/d	VND	75 mg/kg/d

ETHANOLAMINE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	2,5	1	7,6	3	SKIN.
VLEP	BEL	2,5	1	7,6	3	SKIN.
VEL	CHE	5	2	10	4	
MAK	CHE	5	2	10	4	
AGW	DEU	5,1	2	10,2	4	SKIN.
MAK	DEU	5,1	2	10,2	4	
VLA	ESP	2,5	1	7,5	3	SKIN.
VLEP	FRA	2,5	1	7,6	3	SKIN.
WEL	GRB	2,5	1	7,6	3	SKIN.
OEL	IRL	2,5	1	7,6	3	SKIN.
TLV	ITA	2,5	1	7,6	3	SKIN.
OEL	EU	2,5	1	7,6	3	SKIN.
TLV-ACGIH		7,5	3	15	6	

Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,085	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 for water, intermittent release	0,025	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,035	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.	Acute systemic	Chronic local	Chronic systemic	Effects on workers	Acute systemic	Chronic local	Chronic systemic
Oral.			VND	3,75 mg/kg				
Inhalation.			2 mg/mc	2 mg/mc			3,3 mg/mc	3,3 mg/mc
Skin.			VND	0,24 mg/kg			VND	1 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: 27 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

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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 K 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.

ENVIRONMENTAL EXPOSURE CONTROLS.

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	Colorless/ Light Yellow
Odour	Mild
Odour threshold.	Not available.
pH.	>11
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	Not available.
Evaporation Rate	Not available.
Flammability of solids and gases	Not applicable.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not applicable.
Upper explosive limit.	Not applicable.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1,000 - 1,050 kg/l
Solubility	in water: soluble
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not applicable.
Oxidising properties	Not available.

9.2. Other information.

VOC (Directive 1999/13/EC) :	26,50 % - 261,61 g/litre.
VOC (volatile carbon) :	14,80 % - 146,12 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.

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

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and vapours.

10.2. Chemical stability.

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

10.3. Possibility of hazardous reactions.

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid.

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials.

Information not available.

10.6. Hazardous decomposition products.

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

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.

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

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

Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin.

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

NONIONIC SURFACTANT

LD50 (Oral). 200 mg/kg Rat

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LD50 (Oral). > 5000 mg/kg Rat

LD50 (Dermal). > 9510 mg/kg Rabbit

2-BUTOXYETHANOL

LD50 (Oral). > 200 mg/kg Rat

LD50 (Dermal). 405 mg/kg Rabbit

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

ETHANOLAMINE

LD50 (Oral). 1515 mg/kg Rat

LD50 (Dermal). 2504 mg/kg Rabbit

LC50 (Inhalation). > 1,3 mg/l

1-METHOXY-2-PROPANOL

LD50 (Oral). 5300 mg/kg Rat

LD50 (Dermal). 13000 mg/kg Rabbit

LC50 (Inhalation). 54,6 mg/l/4h Rat

AMINES , C12-16 - ALKYL DIMETHYL , N - OXIDE

LD50 (Oral). > 5000 mg/kg

SECTION 12. Ecological information.

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil, sewers and waterways. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

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12.1. Toxicity.

NONIONIC SURFACTANT

LC50 - for Fish.	10 mg/l/96h Brachydanio rerio
EC50 - for Crustacea.	10 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants.	10 mg/l/72h Scenedesmus subspicatus

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LC50 - for Fish.	> 10000 mg/l/96h Poecilia reticulata
EC50 - for Crustacea.	1919 mg/l/48h Daphnia magna

2-BUTOXYETHANOL

LC50 - for Fish.	820 mg/l/96h pesci
EC50 - for Crustacea.	835 mg/l/48h dafnia

ETHANOLAMINE

LC50 - for Fish.	349 mg/l/96h Cyprinus carpio
EC50 - for Crustacea.	65 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants.	22 mg/l/72h Scenedesmus supspicatus

1-METHOXY-2-PROPANOL

LC50 - for Fish.	20800 mg/l/96h Pimephales promelas
EC50 - for Crustacea.	23300 mg/l/48h Daphnia magna

AMINES , C12-16 - ALKYL DIMETHYL , N - OXIDE

LC50 - for Fish.	> 1 mg/l/96h
EC50 - for Crustacea.	> 1 mg/l/48h
EC50 - for Algae / Aquatic Plants.	> 0,1 mg/l/72h

12.2. Persistence and degradability.

NONIONIC SURFACTANT

Rapidly biodegradable.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

2-BUTOXYETHANOL

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

ETHANOLAMINE

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

1-METHOXY-2-PROPANOL

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

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AMINES , C12-16 - ALKYL DIMETHYL , N - OXIDE

Rapidly biodegradable.

12.3. Bioaccumulative potential.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Partition coefficient: n-octanol/water. 0,0043

2-BUTOXYETHANOL
Partition coefficient: n-octanol/water. 0,81

ETHANOLAMINE
Partition coefficient: n-octanol/water. -2,3

1-METHOXY-2-PROPANOL
Partition coefficient: n-octanol/water. < 1
BCF. < 100

12.4. Mobility in soil.

ETHANOLAMINE
Partition coefficient: soil/water. -0,5646

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.**

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.

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.**

Not applicable.

14.2. UN proper shipping name.

Not applicable.

14.3. Transport hazard class(es).

Not applicable.

14.4. Packing group.

Not applicable.

14.5. Environmental hazards.

Not applicable.

14.6. Special precautions for user.

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 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. 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:

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% amphoteric surfactants, EDTA and salts thereof

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

15.2. Chemical safety assessment.

A chemical safety assessment has been performed for the following contained substances.

1-METHOXY-2-PROPANOL

SECTION 16. Other information.

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

Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2

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Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.

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
- 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) 453/2010 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:

02 / 09 / 11 / 13 / 14 / 16.