SAFE DESCALER POWDER

Dated 03/06/2024

Printed on 13/08/2024

Page n. 1/14

Replaced revision:6 (Dated: 14/07/2022)

Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Product name

SAFE DESCALER POWDER

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

Intended use Safe Descaler Powder.

1.3. Details of the supplier of the safety data sheet

UNIService UNISAFF Srl Name

Via al Santuario di N.S. Guardia 58 a Full address **District and Country**

16162 Genova Bolzaneto (GE)

Italia

Tel. + 39 010 711395 Fax + 39 010 713120

e-mail address of the competent person

responsible for the Safety Data Sheet info@uniservicemarine.com

1.4. Emergency telephone number

For urgent inquiries refer to

First Aid Information: Osp." Pediatrico Bambino Gesù" - Dip. Emergenza e Accettazione DEA - 00165 - Roma - Piazza Sant'Onofrio, 4 - PIC: Mr.: Marco Marano -

Phone:06 68593726.

First Aid Information: Az. Osp. Univ. Foggia- Azienda Ospedaliera Universitaria riuniti, Foggia - V.le Luigi Pinto, 1-71122 - PIC: Mrs.: Anna Lepre- phone.: 800183459. First Aid Information:Az. Osp. "A. Cardarelli" -Servizio di Anestesia e rianimazione-Napoli, Via A. Cardarelli, 9-80131- Phone: 081-5453333. PIC: Mr.: Romolo Villani. First Aid Information: Policlinico "Umberto I" -PRGM tossicologia d'urgenza, Roma -V.le del Policlinico, 155, cap 161- phone. 06-49978000- PIC: Mrs.: M. Caterina Grassi. First Aid Information: Policlinico "A. Gemelli", Servizio di tossicologia clinica, Roma, Largo Agostino Gemelli, 8- CAP: 168- phone: 06-3054343 - PIC: Mr.: Alessandro Barelli. First Aid Information: Az. Osp. "Careggi" U.O. Tossicologia Medica- Firenze, via Largo Brambilla, 3- CAP: 50134 -Phone: 055-7947819 -PIC: Mr.: Francesco Gambassi. First Aid Information: Centro Nazionale di Informazione Tossicologica-IRCCS Fondazione Salvatore Maugeri Clinica del lavoro e della riabilitazione - Pavia, Via Salvatore Maugeri, 10- CAP: 27100- Phone: 0382-24444 - PIC: Mr.: Carlo Locatelli. First Aid Information: Osp. Niguarda Ca' Granda - Milano, Piazza Ospedale Maggiore,3-CAP :20162- Phone: 02-66101029- PIC: Mrs.: Franca Davanzo.

First Aid Information: Azienda Ospedaliera Papa Giovanni XXII - Bergamo- Piazza OMS,

1 - CAP: 24127 -Phone: 800883300- PIC: Mr.: Bacis Giuseppe.

First Aid Information: Azienda Ospedaliera Integrata Verona, CAP: 37126 - Piazzale Aristide Stefani, 1,CAP: 37126- Phone: 800011858- PIC: Mr.: Giorgio Ricci.

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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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 2020/878.

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.

Skin sensitization, category 1 H317 May cause an allergic skin reaction.

Hazardous to the aquatic environment, chronic toxicity, H412 Harmful to aquatic life with long lasting effects.

category 3

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.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P280 Wear protective gloves / eye protection / face protection.

P261 Avoid breathing dust / fume / gas / mist / vapours / spray.

P333+P313 If skin irritation or rash occurs: Get medical advice / attention.

P337+P313 If eye irritation persists: Get medical advice / attention.

P264 Wash with water thoroughly after handling.

P362+P364 Take off contaminated clothing and wash it before reuse.

Contains: BUT-2-YNE-1,4-DIOL

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
SULPHAMIC ACID		
INDEX 016-026-00-0	75 ≤ x < 100	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 3 H412
EC 226-218-8		
CAS 5329-14-6		
BUT-2-YNE-1,4-DIOL		
INDEX 603-076-00-9	1≤x< 5	Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT RE 2 H373, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: D
EC 203-788-6		Skin Corr. 1B H314: ≥ 50%, Skin Irrit. 2 H315: ≥ 25% - < 50%, Eye Dam. 1 H318: ≥ 50%, Eye Irrit. 2 H319: ≥ 25% - < 50%
CAS 110-65-6		LD50 Oral: 132 mg/kg, LD50 Dermal: 659 mg/kg, LC50 Inhalation mists/powders: 0.69 mg/kg
CITRIC ACID		
INDEX 607-750-00-3	1 ≤ x < 5	Eye Irrit. 2 H319, STOT SE 3 H335
EC 201-069-1		
CAS 77-92-9		

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

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

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

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

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

If skin irritation or rash occurs: Get medical advice / attention.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

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. The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

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

If there are no contraindications, spray powder with water to prevent the formation of dust.

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 and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues.

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Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. 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

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. 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:

ESP Límites de exposición profesional para agentes químicos en España 2023

ITA Italia Decreto Legislativo 9 Aprile 2008, n.81

PRT Portugal Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes

químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à

exposição durante o trabalho a agentes cancerígenos ou mutagénicos

GBR United Kingdom EH40/2005 Workplace exposure limits (Fourth Edition 2020)

OEL EU Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; EU

Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive

2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.

BUT-2-YNE-1,4-DIOL

Threshold Limit Value								
Туре	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm			
VLA	ESP	0,5					_	
VLEP	ITA	0,5						
VLE	PRT	0,5						
WEL	GBR	0,5						
OEL	EU	0,5						

Legend:

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

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During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for particulate not otherwise classified (PNOC respirable fraction: 3 mg/m3; PNOC inhalable fraction: 10 mg/m3). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment. The above values are not TLVs, but guide values, to be used for particles that do not have their own TLV and that are insoluble or poorly soluble in water and have low toxicity.

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

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

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 ISO 16321).

RESPIRATORY PROTECTION

Use a type P filtering facemask, whose class (1, 2 or 3) and effective need, must be defined according to the outcome of risk assessment (see standard EN 149).

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

Properties Appearance	Value powder
Colour	reddish
Odour	characteristic
Melting point / freezing point	not available
Initial boiling point	not available
Flammability	not available
Lower explosive limit	not available
Upper explosive limit	not available

Information

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Flash point not available
Auto-ignition temperature not available
Decomposition temperature not available

pH 3

Kinematic viscosity not available
Solubility soluble in water
Partition coefficient: n-octanol/water not available
Vapour pressure not available
Density and/or relative density 1,2 g/cm3
Relative vapour density not available
Particle characteristics not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

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

SULPHAMIC ACID

Decomposes at 205°C/401°F.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The powders are potentially explosive when mixed with air.

SULPHAMIC ACID

Risk of explosion on contact with: chlorine.Reacts violently with: nitrates,metal nitrites.

10.4. Conditions to avoid

Avoid environmental dust build-up.

10.5. Incompatible materials

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SULPHAMIC ACID

Incompatible with: chlorine, nitric acid, nitrates, sodium nitrite, potassium nitrites.

10.6. Hazardous decomposition products

SULPHAMIC ACID

May develop: sulphur oxides, nitric oxide.

SECTION 11. Toxicological information

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.

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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 - mists / powders) of the > 5 mg/l

mixture:

ATE (Oral) of the mixture: >2000 mg/kg
ATE (Dermal) of the mixture: >2000 mg/kg

SULPHAMIC ACID

LD50 (Oral): 1450 mg/kg Rat

BUT-2-YNE-1,4-DIOL

 LD50 (Dermal):
 659 mg/kg Rat

 LD50 (Oral):
 132 mg/kg Rat

 LC50 (Inhalation mists/powders):
 0,69 mg/l/4h Rat

CITRIC ACID

LD50 (Oral): 3000 mg/kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

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Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

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

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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 the aquatic organisms. In the long term, it has negative effects on the aquatic environment. **12.1. Toxicity**

Information not available

12.2. Persistence and degradability

SULPHAMIC ACID

Solubility in water > 10000 mg/l

Degradability: information not available

CITRIC ACID

Solubility in water > 10000 mg/l

Rapidly degradable BUT-2-YNE-1,4-DIOL

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Solubility in water > 10000 mg/l

Rapidly degradable

12.3. Bioaccumulative potential

CITRIC ACID

BCF 3,2

BUT-2-YNE-1,4-DIOL

Partition coefficient: n-octanol/water -0,73
BCF 3,16

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 ≥ than 0,1%.

12.6. Endocrine disrupting properties

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

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.

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 or ID number

ADR / RID, IMDG, IATA: UN 2967

14.2. UN proper shipping name

UNIService UNISAFE Srl

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code: (E)

Packaging

Packaging

860

instructions:

instructions: 864

ADR / RID: SULPHAMIC ACID IMDG: SULPHAMIC ACID IATA: SULPHAMIC ACID

14.3. Transport hazard class(es)

ADR / RID: Class: 8

Label: 8

IMDG: Class: 8 Label: 8

IATA: Class: 8 Label: 8



14.4. Packing group

ADR / RID, IMDG, IATA: Ш

14.5. Environmental hazards

ADR / RID: NO

IMDG: not marine pollutant

IATA: NO

14.6. Special precautions for user

ADR / RID: HIN - Kemler: 80 Limited Tunnel restriction Quantities: 5

Special provision: -

EMS: F-A, S-B Limited

Quantities: 5

IATA: Maximum Cargo:

quantity: 100 Κg

Passengers: Maximum quantity: 25

. Kg A803

Special provision:

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

IMDG:

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: None

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

Contained substance

Point 75

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 ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

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 not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

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

Acute Tox. 3 Acute toxicity, category 3

STOT RE 2 Specific target organ toxicity - repeated exposure, category 2

Skin Corr. 1B Skin corrosion, category 1B
Skin Corr. 1C Skin corrosion, category 1C
Skin Corr. 1 Skin corrosion, category 1
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

Skin Sens. 1 Skin sensitization, category 1

Aquatic Chronic 3 Hazardous to the aquatic environment, chronic toxicity, category 3

H301 Toxic if swallowed.H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

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.H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- · vPvM: Very persistent and very mobile
- 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) 2020/878 (II Annex of REACH Regulation)
- 4. Regulation (EC) 790/2009 (I Atp. CLP) 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

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- 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 (EÚ) 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) 2019/521 (XII Atp. CLP)
- 16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
- 17. Regulation (EU) 2019/1148
- 18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
- 19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
- 20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP) 21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
- 22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- 23. Delegated Regulation (UE) 2023/707
- 24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
- 24. Delegated Regulation (UE) 2023/1435 (XX 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.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 03 / 04 / 12 / 14 / 16.