Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: **C400825, C400831, C400847**

Product name **ELITE DOUBLE 16 FAST - BASE**

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

Intended use **For professional use only. Addition silicone for the dental lab.**

1.3. Details of the supplier of the safety data sheet

Name **Zhermack S.p.a**

Full address **Via Bovazecchino 100**

District and Country **45021 Badia Polesine (RO)**
Italy

Tel. +39 0425-597611

Fax +39 0425-597689

e-mail address of the competent person responsible for the Safety Data Sheet **msds@zhermack.com**

1.4. Emergency telephone number

For urgent inquiries refer to **0039 0425597611**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).
However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2015/830.
Hazard classification and indication:

2.2. Label elements

Hazard pictograms: --

Signal words: --

Hazard statements:

EUH210 Safety data sheet available on request.

Precautionary statements: --

2.3. Other hazards

There is no exposure to breathable free crystalline silica during normal use of this product. For more information see section 11.

vPvB substances contained:

OCTAMETHYLCYCLOTETRASILOXANE

DODECAMETHYLCYCLOHEXASILOXANE – D6

DECAMETHYLCYCLOPENTASILOXANE - D5

PBT substances contained:

OCTAMETHYLCYCLOTETRASILOXANE

DODECAMETHYLCYCLOHEXASILOXANE – D6

DECAMETHYLCYCLOPENTASILOXANE - D5

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
CRISTOBALITE		
CAS 14464-46-1	5 ≤ x < 8,5	STOT RE 1 H372
EC 238-455-4		
INDEX -		
OCTAMETHYLCYCLOTETRASILOXANE		
CAS 556-67-2	0,2 ≤ x < 0,4	Flam. Liq. 3 H226, Repr. 2 H361f, Aquatic Chronic 4 H413
EC 209-136-7		
INDEX 014-018-00-1		
OCTAMETHYLCYCLOTETRASILOXANE		
CAS 556-67-2	0 ≤ x < 0,2	Flam. Liq. 3 H226, Repr. 2 H361f, Aquatic Chronic 4 H413
EC 209-136-7		
INDEX 014-018-00-1		
Reg. no. 01-2119529238-36-XXXX		
DECAMETHYLCYCLOPENTASILOXANE - D5		
CAS 541-02-6	0 ≤ x < 0,2	Substance PBT
EC 208-764-9		Substance vPvB
INDEX -		
Reg. no. 01-2119511367-43-0002		
DODECAMETHYLCYCLOHEXASILOXANE – D6		
CAS 540-97-6	0 ≤ x < 0,2	Substance PBT
EC 208-762-8		Substance vPvB
INDEX -		

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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

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. 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:

DNK	Danmark	Bekendtgørelse om ændring af bekendtgørelse om grænseværdier for stoffer og materialer1- BEK nr 655 af 31/05/2018
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
HUN	Magyarország	A pénzügyminiszter 7/2018. (VIII. 29.) PM rendelete a munkahelyek kémiai biztonságáról szóló 25/2000. (IX. 30.) EüM– SZCSM együttes rendelet módosításáról
SWE	Sverige	Hygieniska gränsvärden, AFS 2018:1

CRISTOBALITE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	DNK	0,15					
VLA	ESP	0,05				RESP	
VLEP	FRA	0,05				RESP	(aerosol).

AK	HUN	0,15		RESP	(aerosol).
NGV/KGV	SWE	0,05		RESP	

DECAMETHYLCYCLOPENTASILOXANE - D5

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0012	mg/l
Normal value in marine water	0,00012	mg/l
Normal value for fresh water sediment	11	mg/kg
Normal value for marine water sediment	1,1	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the food chain (secondary poisoning)	16	mg/kg
Normal value for the terrestrial compartment	1,27	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				5 mg/kg bw/d				
Inhalation			4,3 mg/m3	17,3 mg/m3			24,2 mg/m3	97,3 mg/m3

OCTAMETHYLCYCLOTETRASILOXANE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0015	mg/l
Normal value in marine water	0,000015	mg/l
Normal value for fresh water sediment	3	mg/kg
Normal value for marine water sediment	0,3	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the food chain (secondary poisoning)	41	mg/kg
Normal value for the terrestrial compartment	0,54	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	3,7 mg/kg bw/d				
Inhalation			13 mg/m3	13 mg/m3			73 mg/m3	73 mg/m3

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.

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.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee

maximum protection (e.g. reduction in replacement times).

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 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
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.

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	fluid
Colour	violet
Odour	odourless
Odour threshold	Not available
pH	Not applicable
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 available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	insoluble in 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

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.

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.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

Information not available

SECTION 11. Toxicological information

11.1. Information on toxicological effects

“For the purposes of classification of health hazards (part 3), the route of exposure, information on mechanisms and metabolism studies are useful for determining the relevance of effects in humans. If this information raises doubts as to their relevance in humans, in spite of the indisputable data legitimacy and quality, a lower classification may be justified. When there is scientific evidence that the mechanism or mode of action is not relevant to humans, the substance or mixture should not be classified (annex I, section 1.1.1.5, EC Regulation 1272/2008)".
Monitoring activities conducted at the company related to possible inhalation exposure, in accordance with industrial hygiene standards for paste and fluid products, showed levels of exposure to free crystalline silica (breathable part) below the limit of quantification of the method, therefore exposure is not expected during the use indicated in section 1.2 for this specific product.
However, the actual levels of free crystalline silica (breathable part) present in the workplace must be obtained through monitoring as required by regulations for the safety and health of workers.

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

LC50 (Inhalation) of the mixture:
Not classified (no significant component)
LD50 (Oral) of the mixture:
Not classified (no significant component)
LD50 (Dermal) of the mixture:
Not classified (no significant component)

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

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

CRISTOBALITE
Acute Toxicity: No data available.
Irritation/Corrosion
Skin irritation: Not irritating (MSDS supplier).
Eye irritation: Slightly irritating (MSDS supplier).
Sensitization: Not sensitizing (MSDS supplier).
Mutagenicity: Does not meet the classification criteria for this hazard class (MSDS supplier).
Carcinogenicity: IARC (group 1), NTP (RAHC), ACGIH (A2) (IARC).
Toxicity to reproduction: Does not meet the classification criteria for this hazard class (MSDS supplier).
Toxicity for aspiration: Not applicable.
STOT Repeated Exposure: Adverse effects on lungs (fibrosis-silicosis)(MSDS supplier).
In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France).
In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. “There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore preventing the onset of silicosis will also reduce the cancer risk...” (SCOEL SUM Doc 94-final, June 2003).
There is a body of evidence supporting the fact that increased cancer risk would not be limited to people already suffering from silicosis. According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

OCTAMETHYLCYCLOTETRASILOXANE
LD50 (Oral).4800 mg/kg (similar to OECD 401, rat, ECHA dossier)
LD50 (Dermal).> 2000 mg/kg (similar to OECD 402, rat, ECHA dossier).
LC50 (Inhalation).36 mg/l (OECD 403, GLP, rat, 4 h, ECHA dossier).
Irritation/Corrosion
Skin irritation: Not irritating (OECD 404, rabbit, ECHA dossier).
Eye irritation: Not irritating (OECD 405, rabbit, ECHA dossier).
Respiratory or skin Sensitization: Not sensitizing (OECD 406, ECHA dossier).
STOT – Repeated exposure: NOAEC=150 ppm (OECD 453, rat, inhalation, ECHA dossier).
Genotoxicity in vitro: Negative (OECD 476; ECHA dossier).
Genotoxicity in vivo: Negative (OECD 475; OECD 486; rat, ECHA dossier).
Carcinogenicity: NOAEL=150 ppm (male) and NOAEL=700 ppm (female) (OECD 453, rat, inhalation, ECHA dossier).
Toxicity to reproduction: Possible toxic for reproduction (OECD 416, glp, rat, ECHA dossier).
Aspiration toxicity: No data available.

SECTION 12. Ecological information

12.1. Toxicity

OCTAMETHYLCYCLOTETRASILOXANE

LC50 - for Fish	> 0,0022 mg/l (Oncorhynchus mykiss, GLP, ECHA dossier).
EC50 - for Algae / Aquatic Plants	> 0,0022 mg/l/72h (EPA OTS 797.1050, Selenastrum capricornutum, freshwater, ECHA dossier).
Chronic NOEC for Fish	> 0,0044 mg/l (publication, Oncorhynchus mykiss, GLP, ECHA dossier).

OCTAMETHYLCYCLOTETRASILOXANE

LC50 - for Fish	> 0,022 mg/l (publication, Oncorhynchus mykiss, ECHA dossier).
EC50 - for Crustacea	> 0,015 mg/l/48h (publication, GLP, Daphnia magna, ECHA dossier).
EC50 - for Algae / Aquatic Plants	> 0,022 mg/l/72h (EPA OTS 797.1050, Selenastrum capricornutum, freshwater, ECHA dossier).
Chronic NOEC for Fish	> 0,044 mg/l (publication, Oncorhynchus mykiss, GLP, ECHA dossier).

DECAMETHYLCYCLOPENTASILOXANE - D5

LC50 - for Fish	> 0,0016 mg/l/96h (OECD 204, Oncorhynchus mykiss (Trota iridea), SDS supplier).
EC50 - for Crustacea	> 0,00029 mg/l/48h (OECD 202, Daphnia magna, SDS supplier).
EC50 - for Algae / Aquatic Plants	> 0,0012 mg/l/72h (OECD 201, Pseudokirchneriella subcapitata, SDS supplier).
Chronic NOEC for Fish	> 0,0014 mg/l (OECD 210, Oncorhynchus mykiss, SDS supplier).
Chronic NOEC for Crustacea	> 0,0015 mg/l (OECD 211, Daphnia magna, SDS supplier).

DODECAMETHYLCYCLOHEXASILOXANE – D6

EC50 - for Algae / Aquatic Plants	> 0,002 mg/l/72h (Pseudokirchnerella subcapitata, ECHA dossier).
Chronic NOEC for Algae / Aquatic Plants	> 0,002 mg/l (Pseudokirchnerella subcapitata, ECHA dossier).

12.2. Persistence and degradability

OCTAMETHYLCYCLOTETRASILOXANE
NOT rapidly degradable

CRISTOBALITE
NOT rapidly degradable

DECAMETHYLCYCLOPENTASILOXANE - D5
NOT rapidly degradable

DODECAMETHYLCYCLOHEXASILOXANE – D6
NOT rapidly degradable

12.3. Bioaccumulative potential

OCTAMETHYLCYCLOTETRASILOXANE
Partition coefficient: n-octanol/water - LogPow: 6,49 (ECHA dossier).

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

vPvB substances contained:

OCTAMETHYLCYCLOTETRASILOXANE

DODECAMETHYLCYCLOHEXASILOXANE – D6

DECAMETHYLCYCLOPENTASILOXANE - D5

PBT substances contained:
OCTAMETHYLCYCLOTETRASILOXANE

DODECAMETHYLCYCLOHEXASILOXANE – D6

DECAMETHYLCYCLOPENTASILOXANE - D5

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
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

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

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 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: None

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

Product
None

Contained substance

Point	70	OCTAMETHYLCYCLOTETRASILOXANE
Point	70	DECAMETHYLCYCLOPENTASILOXANE - D5

Substances in Candidate List (Art. 59 REACH)

OCTAMETHYLCYCLOTETRASILOXANE

DODECAMETHYLCYCLOHEXASILOXANE – D6

DECAMETHYLCYCLOPENTASILOXANE - D5

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

Information not available

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:

Flam. Liq. 3	Flammable liquid, category 3
Repr. 2	Reproductive toxicity, category 2
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H226	Flammable liquid and vapour.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life.
EUH210	Safety data sheet available on request.

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 (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 / 04 / 05 / 07 / 08 / 09 / 10 / 11 / 12 / 14 / 15 / 16.