Hybrid Adhesive Strong

Revision nr.4
Dated 03/03/2023
Printed on 16/09/2024
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Replaced revision:3 (Dated 25/01/2022)

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 Hybrid Adhesive Strong

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

Intended use Adhesive.

1.3. Details of the supplier of the safety data sheet

Name TORGGLER S.R.L. Full address Via Prati Nuovi 9

District and Country 39020 Marlengo (BZ)

Italy

Tel. +39 0473 282400 Fax +39 0473 282501

e-mail address of the competent person

responsible for the Safety Data Sheet reach@torggler.com

1.4. Emergency telephone number

For urgent inquiries refer to +39 348 662 70 93 (08.00 - 17.30)

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 2020/878.

Hazard classification and indication: --

2.2. Label elements

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

Hazard pictograms: --

Signal words: --

Hazard statements:

EUH210 Safety data sheet available on request.

EUH208 Contains: N-(3-(trimethoxysilyl)propyl)ethylenediamine

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine

Trimethoxyvinylsilane

May produce an allergic reaction.

Precautionary statements: --

2.3. Other hazards

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%.

Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing. May be harmful in contact with skin.

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SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification x = Conc. % Classification (EC) 1272/2008 (CLP)

Trimethoxyvinylsilane

CAS 2768-02-7 2 ≤ x < 2,5 Flam. Liq. 3 H226, Acute Tox. 4 H332, Skin Sens. 1B H317

EC 220-449-8 LC50 Inhalation vapours: 16,8 mg/l/4h

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REACH Reg. 01-2119513215-52-xxxx

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine

CAS 3069-29-2 0,809 ≤ x < 0,909 Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317

EC 221-336-6 STA Oral: 500 mg/kg INDEX

REACH Reg. 01-2119963926-21-xxxx

N-(3-(trimethoxysilyl)propyl)ethylenediamine

CAS 1760-24-3 0,809 ≤ x < 0,909 Acute Tox. 4 H332, Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1 H317

EC 217-164-6 STA Inhalation vapours: 11 mg/l

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REACH Reg. 01-2119970215-39-xxxx

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

SECTION 4. First aid measures

4.1. Description of first aid measures

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

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

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

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

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

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

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

Treat symptomatically. Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

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

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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

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. 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 cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

Protect against moisture. Store at a temperature between +10 and +35 °C. Store away from food or feed and beverages.

Storage class TRGS 510 (Germany): 10

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing Methanol (CAS 67-56-1): (EU) TWA: 200 ppm

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SECTION 8. Exposure controls/personal protection .../>>

			Trimeth	oxyvinylsilane				
Predicted no-effect cor	ncentration	- PNEC						
Normal value in fresh water						0,34	mg/l	
Normal value in mari			0,034	mg/l				
Normal value of STP microorganisms						110	mg/l	
lealth - Derived no-eff	ect level - D	NEL / DMEL						
	Effects or	n consumers		Effects on workers				
Route of exposure	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Oral				0,3				
				mg/kg bw/d				
Inhalation				18,9				27,6
				mg/m3				mg/m3
Skin				7,8				3,9
				mg/kg bw/d				mg/kg
								bw/d

		N-(3	-(trimethoxysily	l)propyl)ethylei	nediamine			
redicted no-effect cor	ncentration	- PNEC						
Normal value in fresh water						0,062	mg/l	
Normal value in marine water						0,0062	mg/l	
Normal value for fresh water sediment						0,22	mg/kg/d	
Normal value for marine water sediment						0,022	mg/kg/d	
Normal value for water, intermittent release						0,62	mg/l	
Normal value of STP	microorgani	isms				25	mg/l	
Normal value for the terrestrial compartment						0,0085	mg/kg/d	
ealth - Derived no-eff	ect level - D	NEL / DMEL						
	Effects or	n consumers			Effects on workers			
Route of exposure	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Oral				2,5				
				mg/kg bw/d				
Inhalation				8,7				35,5
				mg/m3				mg/m3
Skin				2,5				
				mg/kg bw/d				

		N-[3-(dir	methoxymethyl	silyl)propyl]eth	ylenediamine			
redicted no-effect cor	ncentration	- PNEC						
Normal value in fresh water						0,062	mg/l	
Normal value in marine water						0,0062	mg/l	
Normal value for fresh water sediment						0,24	mg/kg/d	
Normal value for marine water sediment						0,024	mg/kg/d	
Normal value for water, intermittent release						0,62	mg/l	
Normal value of STP	microorgan	isms				25	mg/l	
Normal value for the	terrestrial co	ompartment				0,01	mg/kg/d	
lealth - Derived no-eff	ect level - D	NEL / DMEL						
	Effects or	n consumers			Effects on workers			
Route of exposure	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Oral				0,83				
				mg/kg bw/d				
Inhalation				2,9				
				mg/m3				
Skin				0,83				
				mg/kg bw/d				

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

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.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, failure time and

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SECTION 8. Exposure controls/personal protection ... / >>

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 I 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

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. 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).

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 Colour Odour Odour threshold Melting point / freezing point Initial boiling point Flammability Lower explosive limit Upper explosive limit Flash point Auto-ignition temperature pH Kinematic viscosity Solubility Partition coefficient: n-octanol/water Vapour pressure Density and/or relative density	not available not applicable >20,5 mm2/sec (40°C) immiscible with water not available not available 1,54 g/cm3	Information Reason for missing data:not soluble in water
• •		
•	, 3	
Relative vapour density	not available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Kinematic viscosity (40 °C) >0,5 m2/s

SECTION 10. Stability and reactivity

10.1. Reactivity

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

Product cures with moisture.

10.2. Chemical stability

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

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SECTION 10. Stability and reactivity .../>>

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.

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Avoid exposure to: heat,naked flames,moisture,ignition sources.

Product cures with moisture. Protect from moisture. Exposure to air or moisture over prolonged periods. Do not freeze. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

N-(3-(trimethoxysilyl)propyl)ethylenediamine Avoid contact with: water,acids,bases.

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.

None under normal use conditions. Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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 - vapours) of the mixture: > 20 mg/l

ATE (Oral) of the mixture:

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

Not classified (no significant component)

Trimethoxyvinylsilane

LD50 (Oral): 7120 mg/kg bw Rat

LD50 (Dermal): 3540 μg/kg Otyctolagus cuniculus

LC50 (Inhalation vapours): 16,8 mg/l/4h Rat

N-(3-(trimethoxysilyl)propyl)ethylenediamine

 LD50 (Oral):
 2295 mg/kg bw Rat

 LD50 (Dermal):
 > 2000 mg/kg bw Rat

 LC50 (Inhalation vapours):
 1,49 mg/l Rat (aerosol 4h)

STA (Inhalation vapours): 11 mg/l estimate from table 3.1.2 of Annex I of the CLP

(figure used for calculation of the acute toxicity estimate of the mixture)

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine

LD50 (Oral): 200 mg/kg Rat

STA (Oral): 500 mg/kg estimate from table 3.1.2 of Annex I of the CLP

(figure used for calculation of the acute toxicity estimate of the mixture)

LD50 (Dermal): > 5000 mg/kg bw Rabbit

LC50 (Inhalation vapours): 5,2 mg/l/4h Rat

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SECTION 11. Toxicological information .../>>

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

May produce an allergic reaction.

Contains:

N-(3-(trimethoxysilyl)propyl)ethylenediamine

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine

Trimethoxyvinylsilane

No sensitisation reactions were observed. No classification is proposed, based on the negative conclusive data. It may however cause sensitisation in susceptible individuals.

Method: OECD 406 Skin sensitisation, Buehler test

CN code: Guinea Pig Exposure: dermal

Results: No sensitisation reactions were observed.

Respiratory sensitization

Information not available

Skin sensitization

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

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SECTION 11. Toxicological information .../>>

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: >20,5 mm2/sec (40°C)

11.2. Information on other hazards

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

SECTION 12. Ecological information

12.1. Toxicity

N-(3-(trimethoxysilyl)propyl)ethylenediamine

LC50 - for Fish 597 mg/l/96h Danio rerio EC50 - for Crustacea 81 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants 8,8 mg/l/72h Desmodesmus Subspicatus

Chronic NOEC for Fish

Chronic NOEC for Crustacea

344 mg/l Danio rerio
35 mg/l Daphnia magna

Chronic NOEC for Algae / Aquatic Plants 1,6 mg/l Pseudokirchnerella subcapitata

Trimethoxyvinylsilane

LC50 - for Fish 191 mg/l/96h Oncorhyncus mykiss EC50 - for Crustacea 168,7 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants 957 mg/l/72h Desmodesmus subspicatus

Chronic NOEC for Fish 100 mg/l Oncorhynchus mykiss

Chronic NOEC for Crustacea 1 mg/l Daphnia magna

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine

LC50 - for Fish EC50 - for Crustacea

EC50 - for Algae / Aquatic Plants 8,8 mg/l/72h Pseudokirchneriella subcapitata

Chronic NOEC for Fish 344 mg/l
Chronic NOEC for Crustacea 2,15 mg/l
Chronic NOEC for Algae / Aquatic Plants 3,1 mg/l

12.2. Persistence and degradability

N-(3-(trimethoxysilyl)propyl)ethylenediamine NOT rapidly degradable

Trimethoxyvinylsilane NOT rapidly degradable

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine Degradability: information not available

12.3. Bioaccumulative potential

Trimethoxyvinylsilane

Partition coefficient: n-octanol/water

1,1 Log Kow 20 °C - pH 7

597 mg/l/96h Danio rerio (read-across from CAS 1760-24-3)

> 100 mg/l/48h Daphnia magna

12.4. Mobility in soil

Information not available

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SECTION 12. Ecological information .../>>

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

EWC: 080410.

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 or ID 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. Maritime transport in bulk according to IMO instruments

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/EU:

None

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

Product

Point 40

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SECTION 15. Regulatory information .../>>

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

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
Acute Tox. 4 Acute toxicity, category 4
Eye Dam. 1 Serious eye damage, category 1
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
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H332 Harmful if inhaled.

H318 Causes serious eye damage.

H315 Causes skin irritation.

H335 May cause respiratory irritation.
 H317 May cause an allergic skin reaction.
 EUH210 Safety data sheet available on request.

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 as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- 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

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SECTION 16. Other information .../>>

- 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 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) 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
- 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) 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)
- 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:

07 / 08 / 11 / 12 / 15.