

Safety Data Sheet

According to Annex II to REACH - Regulation 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	Acetic Standard Silicone Acetic Standard
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1.2 Relevant identified uses of the substance or mixture and uses advised against

Intended use
Silicone sealant.

1.3 Details of the supplier of the safety data sheet

Company name	TORGGLER S.R.L.
Full address	Via Prati Nuovi 9
Town	Marlengo
Postal code	39020
Province	BZ
Country	Italy
Phone number	+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)
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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 (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

Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Serious eye damage, category 1	H318	Causes serious eye damage.

2.2 Label elements

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

Hazard pictograms



Signal word

Danger

Section 2

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Precautionary statements

P501	Dispose of contents and container in accordance with local and national regulations.
P102	Keep out of reach of children.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a poison center/doctor.
P261	Avoid breathing mist, spray, vapours.

Contains

ethyltriacetoxysilane
Ethyl- and Methylacetoxysilanes, oligomers
4,5-dichloro-2-octyl-2H-isothiazol-3-one

Contains Biocides. Contains 4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT) CAS No. 64359-81-5 for antimicrobial protection of the cured sealant.

2.3 Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage $\geq$ than 0,1%.
The product does not contain substances with endocrine disrupting properties in concentration $\geq$ 0.1%.

The product hydrolysis with acetic acid formation (CAS 64-19-7). Acetic acid is classified both in relation to physical dangers and to health dangers. The speed of hydrolysis and therefore also the relevance for the danger of the product depend strongly on the specific conditions.

Section 3 Composition/information on ingredients

Polydimethylsiloxane + filler + additives + crosslinker acetoxysilane

3.2 Mixtures
Distillates (petroleum), hydrotreated middle

Concentration	$26.1 \leq x < 40 \%$
CAS number	64742-46-7
EC number	265-148-2
INDEX number	649-221-00-X
Registration Number	01-2119552497-29-xxxx
Hazard classification	▪ Asp. Tox. 1; H304
Classification note according to Annex VI to the CLP Regulation:	N

ethyltriacetoxysilane

Concentration	$1.57 \leq x < 3.02 \%$
CAS number	17689-77-9
EC number	241-677-4
Registration Number	01-2119881778-15-xxxx
Hazard classification	▪ Acute Tox. 4; H302 ▪ Skin Corr. 1B; H314 ▪ Eye Dam. 1; H318
Additional classification	EUH014

Section 3

LD50 (Oral):	1,460 mg/kg
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Ethyl- and Methylacetoxysilanes, oligomers

Concentration	$1.02 \leq x < 1.97 \%$
Hazard classification	- Skin Corr. 1B; H314 - Eye Dam. 1; H318

4,5-dichloro-2-octyl-2H-isothiazol-3-one

Concentration	$0.015 \leq x < 0.065 \%$
CAS number	64359-81-5
EC number	264-843-8
INDEX number	613-335-00-8
Hazard classification	- Acute Tox. 4; H302 - Skin Corr. 1; H314 - Skin Sens. 1; H317 - Eye Dam. 1; H318 - Acute Tox. 2; H330 - Aquatic Acute 1; H400 - Aquatic Chronic 1; H410
M Factor (acute)	100
M Factor (chronic)	100
Specific concentration limits	- Skin Sens. 1; H317: $\geq 0.0015 \%$ - Skin Irrit. 2; H315: $\geq 0.025 \%$ - Eye Irrit. 2; H319: $\geq 0.025 \%$
Additional classification	EUH071

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.

Rescuers 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

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

Immediately call a poison center/doctor.

Section 4

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

Running water for skin and eye wash.

Please see further toxicological information in section 11

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

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders,

Section 7

vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

Indication on fire and antideflacrant protection:

The product can free acetic acid. In closed environments, vapors can form mixtures with air, which in the presence of ignition sources cause explosion also within empty containers, not cleaned up.

7.2 Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany)

None

Applicable technical instruction according to Royal Decree 656/2017:

Classification	Storage in fixed containers	Storage in mobile containers
- H317 – Skin Sens. 1 - H315 – Skin Irrit. 2 - H318 – Eye Dam. 1	Not applicable	MIE APQ-10 – Storage in mobile containers

Respect the joint storage conditions established in Royal Decree 656/2017.

7.3 Specific end use(s)

Adhesives and/or sealants.

Section 8 Exposure controls/personal protection

8.1 Control parameters

ethyltriacetoxysilane

Predicted no-effect concentration - PNEC

Normal value of STP microorganisms	1 mg/l
Normal value in fresh water	0.2 mg/l
Normal value for fresh water sediment	0.74 mg/kg
Normal value in marine water	0.02 mg/l
Normal value for marine water sediment	0.074 mg/kg
Normal value for the terrestrial compartment	0.031 mg/kg
Normal value for water, intermittent release	1.7 mg/l

Health - Derived no-effect level - DNEL / DMEL

	Local effect	Systemic effect
Consumers, short-term, inhalation	65 mg/m ³	
Consumers, long-term, inhalation	0 mg/m ³	
Workers, long-term, inhalation	0 mg/m ³	

Limit values for air quality in the workplace:

Acetic Acid CAS No. 64-19-7; TLV_IT: 25.0 mg/m³, 10.0 ppm

Acetic Acid CAS No. 64-19-7; EU: 25,0 mg/m³, 10,0 ppm

Acetic Acid CAS No. 64-19-7: short-term 50 mg/m³ (=20 ppm)

Acetic Acid CAS No. 64-19-7: EU short-term limit value 50 mg/m³ (=20 ppm)

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.

Section 8

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.
When choosing risk management measures and operating conditions, consult the exposure scenarios attached.
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.
Protect your hands with gloves of the following type:

Protect your hands with gloves of the following type

Material	Thickness	Breakthrough time
Butyl rubber (IIR)	> 0.3 mm	> 480 min
–	–	–
Nitrile rubber (NBR)	> 0.1 mm	60 ≤ x ≤ 120 min
–	–	–

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344/EN ISO 13034).
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

Physical state	pasty liquid	
Colour	various	
Odour	acetic acid	
Odour threshold	Not applicable	
Melting point / freezing point	Not applicable	
Initial boiling point	Not applicable	
Flammability	Not available	
Lower explosive limit	Not applicable	
Upper explosive limit	Not available	
Flash point	108 °C (226.4 °F)	
Auto-ignition temperature	> 400 °C (> 752 °F)	
Decomposition temperature	> 300 °C (> 572 °F)	
pH	not soluble in water	
Kinematic viscosity	> 20.5 mm ² /s	

Section 9

Dynamic viscosity	> 1,000,000 PI	Temperature: 23 °C (73.4 °F)
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not applicable	
Vapour pressure	Not applicable	
Density and/or relative density	1 g/ml	Temperature: 23 °C (73.4 °F)
Relative vapour density	Not available	

Particle characteristics

Information not available.

9.2 Other information
9.2.1 Information with regard to physical hazards

Information not available.

9.2.2 Other safety characteristics

Total solids	71.00 %	Temperature: 250 °C (482 °F)
Kinematic viscosity (40 °C)	>0.5 m2/s	

Solubility in water: Hydrolytic decomposition occurs. pH value: The product has an acidic reaction with water. Explosion limits for released acetic acid: 4 - 17 % Vol.

Section 10 Stability and reactivity
10.1 Reactivity

Product cures with moisture.

10.2 Chemical stability

Information not available.

10.3 Possibility of hazardous reactions

The product may react violently with water.

ethyltriacetoxysilane

Decomposes on contact with: water, acids, alkaline substances

Reacts with: alcohols

10.4 Conditions to avoid

Avoid overheating. Prevent moisture or water from penetrating inside the containers.

Humidity, heat, open flames and other sources of ignition.

10.5 Incompatible materials

It reacts with: water, basic substances and alcohols. The reaction occurs with the formation of acetic acid.

10.6 Hazardous decomposition products

With acetic acid hydrolysis. Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °F) through oxidation.

ethyltriacetoxysilane

In decomposition develops: acetic acid

Section 11

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.

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

11.1.1 Metabolism, toxicokinetics, mechanism of action and other information

Information not available.

11.1.2 Information on likely routes of exposure

Information not available.

11.1.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available.

11.1.4 Interactive effects

Information not available.

11.1.5 ACUTE TOXICITY

ATE (Inhalation) of the mixture	Not classified (no significant component)
ATE (Oral) of the mixture	> 2,000 mg/kg
ATE (Dermal) of the mixture	Not classified (no significant component)

ethyltriacetoxysilane

LD50 (Oral):	1,460 mg/kg	Species/guidelines: Rat
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Distillates (petroleum), hydrotreated middle

LD50 (Oral):	> 5,000 mg/kg	Species/guidelines: Rat (OECD 401)
LD50 (Dermal):	> 3,160 mg/kg	Species/guidelines: Rabbit (OECD 402)
LC50 (Inhalation mists/powders):	> 5.266 mg/l	Exposure duration: 4 hours Species/guidelines: Rat (OECD 403)

4,5-dichloro-2-octyl-2H-isothiazol-3-one

ATE (Oral)	500 mg/kg	estimate from table 3.1.2 of Annex I of the CLP
ATE (Inhalation - vapours)	0.5 mg/l	estimate from table 3.1.2 of Annex I of the CLP
ATE (Inhalation - mists / powders)	0.05 mg/l	estimate from table 3.1.2 of Annex I of the CLP

11.1.6 SKIN CORROSION/IRRITATION

Causes skin irritation.

11.1.7 SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage.

11.1.8 RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

11.1.9 GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

Section 11

11.1.10 CARCINOGENICITY

Does not meet the classification criteria for this hazard class

11.1.11 REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

11.1.12 STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

11.1.13 STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

11.1.14 ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

Viscosity:

In the face of the physical-chemical properties of the product, no danger of aspiration is expected.

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.

In contact with dampness product separates a small quantity of acetic acid (64-19-7) which irritates skin and mucous membranes.

Section 12 Ecological information

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

12.1 Toxicity**ethyltriacetoxysilane**

EC50 - for Crustacea	168.7 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna
LC50 - for Fish	251 mg/l	Exposure duration: 96 hours Species/guidelines: Denio rerio
EC50 - for Algae / Aquatic Plants	210 mg/l	Exposure duration: 72 hours Species/guidelines: Pseudokirchneriella subcapitata
Chronic NOEC for Crustacea	> 100 mg/l	Species/guidelines: Daphnia magna

4,5-dichloro-2-octyl-2H-isothiazol-3-one

EC50 - for Crustacea	0.0052 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna (OECD 202)
LC50 - for Fish	0.0027 mg/l	Exposure duration: 96 hours Species/guidelines: Oncorhynchus mykiss (OECD 203)
Chronic NOEC for Fish	0.00056 mg/l	Species/guidelines: Oncorhynchus mykiss (OECD 210)
Chronic NOEC for Algae / Aquatic Plants	0.00034 mg/l	Species/guidelines: Navicula pelliculosa (OECD 201)

The classification of this material regarding environmental dangers is based on data relating to ingredients and the heli -mild quantity of biocida in water simulation tests.

On the basis of existing data, up to the maximum solubility of the product, no relevant effects are foreseen for the purpose of classification on aquatic organisms.

mixture / product:

LC50 - Pisces> 10 - <100 mg/l/96h Oncorhynchus Mykiss

Section 12

EC50 - Crustaceans> 10 - <100 mg/l/48h Crassostrea Virginica

Noec - Algae> 1 mg/l/24h Fur spacecraft

Noec - Pisces> 1 mg/l Oncorhynchus Mykiss

Noec - Crustaceans> 1 mg/l Daphnia Magna

12.2 Persistence and degradability

Silicone content: non-biodegradable. Separation by sedimentation. The hydrolysis product (acetic acid) is easily biodegradable.

ethyltriacetoxysilane

Degradability	Rapidly degradable
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Distillates (petroleum), hydrotreated middle

Degradability	Rapidly degradable
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12.3 Bioaccumulative potential

Polymer component: No adverse effects expected.

ethyltriacetoxysilane

Partition coefficient n-octanol/water	0.74 LogKow
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12.4 Mobility in soil

Polmerica component: insoluble in water.

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 $\geq$ 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

The product has not been assigned a waste code number according to the European Waste Catalogue (EWC), because only the intended use by the consumer allows its association. The waste code number must be determined within the EU in agreement with the waste disposal company.

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.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

Hazardous waste classification - Reg. (UE) 1357/2014

HP 5 – Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

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

Section 14

(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

Not applicable

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

	Restrictions	Registration Number EU
Product restrictions	3	
Contained substance		
	75	

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Not applicable

Substances in Candidate List (Art. 59 REACH)**Registration Number EU**

On the basis of available data, the product does not contain any SVHC in percentage $\geq$ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)**Authorisation
Number****Sunset date****Registration Number EU**

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Section 15

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Regulation (EU) 2019/1021 - on persistent organic pollutants

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.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK1 – Low hazard to waters

Regulation (EU) No 528/2012 Biocides

This product contains 4,5-dichloro-2-octyl-2H-isothiazol-3-one CAS No. 64359-81-5 for antimicrobial protection of the cured sealant. (PT7)

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. 2	Acute toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Asp. Tox. 1	Aspiration hazard, category 1
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Corr. 1	Skin corrosion, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
EUH014	Reacts violently with water.
EUH071	Corrosive to the respiratory tract.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Legend

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate

Section 16

Legend

- CAS: Chemical Abstract Service Number
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EC50: Effective concentration (required to induce a 50% effect)
- EC: Identifier in ESIS (European archive of existing substances)
- 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
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 (EU) 2020/217 (XIV ATP CLP)
19. Delegated Regulation (EU) 2020/1182 (XV ATP CLP)
20. Delegated Regulation (EU) 2021/643 (XVI ATP CLP)
21. Delegated Regulation (EU) 2021/849 (XVII ATP CLP)
22. Delegated Regulation (EU) 2022/692 (XVIII ATP CLP)
23. Delegated Regulation (EU) 2023/707
24. Delegated Regulation (EU) 2023/1434 (XIX ATP CLP)
25. Delegated Regulation (EU) 2023/1435 (XX ATP CLP)
26. Delegated Regulation (EU) 2024/197 (XXI ATP CLP)
27. Delegated Regulation (EU) 2024/2564 (XXII ATP CLP)

Section 16

General Bibliography

28. Regulation (EU) 2024/2865

29. Delegated Regulation (EU) 2025/1222 (XXIII 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 from the previous revision

This SDS has been prepared with a different software from the one previous revision. The new calculation does not allow us to identify all the differences compared to the previous version. We therefore recommend carefully reviewing all 16 sections of the SDS. We remain available to provide any clarification regarding the content or the changes made compared to the previous version, which is available to professional or industrial users.