# Safety data sheet
**according to 1907/2006/EC, Article 31**

*Printing date 22.12.2016* *Version 1* *Revision: 22.12.2016*

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

· **1.1 Product identifier**

· **Trade name: OTTOCURE S-CA 2205**
· **Application of the substance / the mixture** Preparation of adhesives

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Hermann Otto GmbH
Krankenhausstraße 14
D-83413 Fridolfing
Tel.: 0049/(0)8684/908-0
Fax.: 0049/(0)8684/908-539

· **Further information obtainable from:**
Tel.: 0049- (0)8684- 908- 641 ( -460 )
E-Mail: alois.parzinger@otto-chemie.de
· **1.4 Emergency telephone number:** Tel.: 0049- (0) 89- 192 40 (emergency telephone no.)

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## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS05, GHS07
· **Signal word** Danger

· **Hazard-determining components of labelling:**
4,4,7,7-tetraethoxy-3,8-dioxa-4,7-disiladecane
N-(3-(trimethoxysilyl)propyl)ethylenediamine
1,2-Bis(triethoxysilyl)ethen
3-(trimethoxysilyl)propylamine
· **Hazard statements**
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**

| | |
|---|---|
| P102 | Keep out of reach of children. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves / eye protection / face protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304+P312 | IF INHALED: Call a POISON CENTER/doctor if you feel unwell. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P313 | Get medical advice/attention. |

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· **Additional information:**
Contains N-(3-(trimethoxysilyl)propyl)ethylenediamine, dibutylbis(pentane-2,4-dionato-O,O')tin. May produce an allergic reaction.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Polydimethylsiloxane, filler, auxiliaries, alkoxy crosslinker
· **Dangerous components:**

| | | |
|---|---|---|
| CAS: 16068-37-4<br>EINECS: 240-212-2 | 4,4,7,7-tetraethoxy-3,8-dioxa-4,7-disiladecane<br>Acute Tox. 3, H301; Acute Tox. 4, H312; Aquatic Chronic 3, H412 | < 25% |
| CAS: 1185-55-3<br>EINECS: 214-685-0 | trimethoxy(methyl)silane<br>Flam. Liq. 2, H225 | < 10% |
| CAS: 1760-24-3<br>EINECS: 217-164-6 | N-(3-(trimethoxysilyl)propyl)ethylenediamine<br>Eye Dam. 1, H318; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Sens. 1, H317 | < 10% |
| CAS: 87061-56-1 | 1,2-Bis(triethoxysilyl)ethen<br>Acute Tox. 3, H301; Acute Tox. 4, H312; Aquatic Chronic 3, H412 | < 5% |
| CAS: 13822-56-5<br>EINECS: 237-511-5 | 3-(trimethoxysilyl)propylamine<br>Eye Dam. 1, H318; Skin Irrit. 2, H315 | < 5% |
| CAS: 22673-19-4<br>EINECS: 245-152-0 | dibutylbis(pentane-2,4-dionato-O,O')tin<br>Muta. 2, H341; Repr. 1A, H360; STOT SE 1, H370; STOT RE 1, H372; Skin Corr. 1A, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Sens. 1, H317 | < 1% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | methanol<br>Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370 | < 1% |

· **Additional information** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
· **After skin contact**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing**
Do not induce vomiting; call for medical help immediately. Show container or label.
· **4.2 Most important symptoms and effects, both acute and delayed**
Headache
Dizziness
Dizziness
Nausea

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· **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed or in case of vomiting, danger of entering the lungs

## SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents** Water with full jet.
· **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
· **5.3 Advice for firefighters**
· **Protective equipment:** Do not inhale explosion gases or combustion gases.
· **Additional information** Cool endangered receptacles with water spray.

## SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep away from ignition sources
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
· **6.4 Reference to other sections** See Section 8 for information on personal protection equipment.

## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
see item 8: Personal protective equipment
· **Information about fire - and explosion protection:**
Protect against electrostatic charges.
Traces of flammable substances may collect in the steam chamber of enclosed systems. Keep clear ofignition sources.
Highly volatile, flammable constituents are released during processing.
Flammable gas-air mixtures may form in empty receptacles.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Provide solvent resistant, sealed floor.
Prevent any seepage into the ground.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.

## SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

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· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
· **CAS No. Designation of material % Type Value Unit**
· **Additional Occupational Exposure Limit Values for possible hazards during processing:**

**64-17-5 ethanol**

WEL Long-term value: 1920 mg/m³, 1000 ppm

**67-56-1 methanol**

WEL Short-term value: 333 mg/m³, 250 ppm
Long-term value: 266 mg/m³, 200 ppm
Sk

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
The usual precautionary measures are to be adhered to when handling chemicals.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Pregnant women should strictly avoid inhalation or skin contact.
· **Respiratory protection:**
Use suitable respiratory protective device when high concentrations are present.
· **Protection of hands:** Protective gloves.
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Butyl rubber, BR
Recommended glove types: nitrile rubber
Recommended thickness of the material: ≥ 0.2 mm
· **Penetration time of glove material** Breakthrough time: > 60 min
· **Eye protection:** Tightly sealed goggles.
· **Body protection:** Protective work clothing.

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

| | |
|---|---|
| **Form:** | Fluid |
| **Colour:** | Different according to colouring |
| · **Odour:** | Characteristic |
| · **Odour threshold:** | Not determined. |
| · **pH-value:** | Not determined. |
| · **Change in condition** | |
| **Melting point/Melting range:** | undetermined |
| **Boiling point/Boiling range:** | undetermined |
| · **Flash point:** | 44 °C (Bestimmung nach ISO 3679)<br>Not regulated as flammable liquid Category 3 – CLP-VO app.1, SECTION 2.6.4.5 - Substance does not sustain combustion! (evaluation acc. to ISO 9038) |
| · **Self-igniting:** | Product is not selfigniting. |
| · **Danger of explosion:** | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · **Explosion limits:** | |
| **Lower:** | not applicable |

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| | |
|---|---|
| **Upper:** | not applicable |
| · **Oxidising properties** | Not determined. |
| · **Vapour pressure:** | Not determined. |
| · **Density at 20 °C:** | 0.97 g/cm³ |
| · **Vapour density** | Not applicable. |
| · **Evaporation rate** | Not determined. |
| · **Solubility in / Miscibility with Water:** | Not determined. |
| · **Partition coefficient (n-octanol/water):** | Not determined. |
| · **Viscosity:** | Not determined. |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
Avoid strong heating.
· **10.3 Possibility of hazardous reactions**
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised
· **10.5 Incompatible materials:** Strong oxidizing agents, alkalis, amines, strong acides
· **10.6 Hazardous decomposition products:** see item 5.2

## SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**
Harmful if swallowed.
· **LD/LC50 values relevant for classification:**

**16068-37-4 4,4,7,7-tetraethoxy-3,8-dioxa-4,7-disiladecane**

| | | |
|---|---|---|
| Oral | LD50 | 161 mg/kg (rat) |
| Dermal | LD50 | 1971 mg/kg (rat) |

**1760-24-3 N-(3-(trimethoxysilyl)propyl)ethylenediamine**

| | | |
|---|---|---|
| Oral | LD50 | 2995 mg/kg (rat) |
| Dermal | LD50 | > 2000 mg/kg (rab) |
| Inhalative | LC50/4 h | 1.49 mg/l (rat) |

**87061-56-1 1,2-Bis(triethoxysilyl)ethen**

| | | |
|---|---|---|
| Oral | LD50 | 161 mg/kg (rat) (OECD 401) |
| Dermal | LD50 | 1971 mg/kg (rat) (OECD 402) |

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye damage.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

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· **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water course or sewage system.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Liquid residues must be specially treated adhering to official regulations.

· **Uncleaned packaging:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

## SECTION 14: Transport information

· **14.1 UN-Number**
· **ADR, ADN, IMDG, IATA** Void
· **14.2 UN proper shipping name**
· **ADR, ADN, IMDG, IATA** Void
· **14.3 Transport hazard class(es)**

· **ADR, ADN, IMDG, IATA**
· **Class** Void
· **14.4 Packing group**
· **ADR, IMDG, IATA** Void
· **14.5 Environmental hazards:**
· **Marine pollutant:** No
· **14.6 Special precautions for user** Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:** Not dangerous according to the above specifications.

· **ADR**
· **Remarks:** Road transport: Not regulated in Class 3 - ADR/RID 2.2.3.1.1 NOTE 1 - Substance does not sustain combustion!
Rail transport: Not regulated in Class 3 - ADR/RID 2.2.3.1.1 NOTE 1 - Substance does not sustain combustion!
Ship transport: Not regulated in Class 3 - IMDG 2.3.1.3 - Substance does not sustain combustion!
Air transport: Not regulated in Class 3 - IATA 3.3.1.3 / ICAO 3.1.3 - Substance does not sustain combustion!

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· **UN "Model Regulation":** Void

## SECTION 15: Regulatory information

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

· **National regulations**

· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
· **Details of international registration status:**
**Listed on or in accordance with the following inventories:**

| | |
|---|---|
| ENCS - Japan | not listed |
| NZIoC - New Zealand | listed |
| EINECS - Europe | listed |
| AICS - Australia | listed |
| DSL/NDSL - Canada | not listed |
| IECSC - China | listed |
| PICCS - Philippines | listed |
| ECL/KECI - Korea | listed |
| TSCA - USA | listed |
| NECI - Taiwan | not listed |

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H341 Suspected of causing genetic defects.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

· **Department issuing SDS:** Tel.: 0049- (0)8684- 908- 641
· **Contact:** Tel.: 0049- (0)8684- 908- 641 ( -460 )
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent

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*LD50: Lethal dose, 50 percent*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
*Flam. Liq. 2: Flammable liquids – Category 2*
*Acute Tox. 3: Acute toxicity – Category 3*
*Acute Tox. 4: Acute toxicity – Category 4*
*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*
*Skin Sens. 1: Skin sensitisation – Category 1*
*Muta. 2: Germ cell mutagenicity – Category 2*
*Repr. 1A: Reproductive toxicity – Category 1A*
*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*
*STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*
*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*
*Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*
*Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*
*Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*

· **** Data compared to the previous version altered.***