

# SAFETY DATA SHEET

Date Updated: 01.06.2013  
Version: 4.6  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

**ONICHEM**  
Onichem Specialities  
www.onichem.com

## 3-Mercaptopropyltrimethoxysilane [ Organosilane S301 ]

### \*\*\*\* SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING \*\*\*\*

SDS Name: **3-Mercaptopropyltrimethoxysilane (Organosilane S301)**

Chemical Name: 3-Mercaptopropyltrimethoxysilane, 98%

Synonym(s): 3-Trimethoxysilylpropane-1-thiol

IUPAC Name: 3-trimethoxysilylpropane-1-thiol

Company Identification: Dalian Onichem Co., Ltd.

No. 2 Gaoxin Street, Qixianling, Dalian 116023, P.R. China

Tel: 86-411-84794022, Fax: 86-411-84794077

For emergencies, call CHEMTREC 1-800-424-9300 or 1-202-483-7616

### \*\*\*\* SECTION 2 - HAZARDS IDENTIFICATION \*\*\*\*

#### EU-GHS Classifications

Classifications below according to Regulation (EU) No 1272/2008 on classification, labelling and packaging of Substances and Mixtures (CLP).

Acute toxicity - oral	Category 4	H302
Skin sensitization	Category 1	H317
Hazardous to the aquatic environment - chronic Hazard	Category 2	H411

#### GHS-Labeling:

Globally Harmonized System of Classification and Labelling (GHS)

Symbol(s):



Hazard Pictogram: GHS07, GHS09

Signal Word: Warning

Hazard Statement:	H302 H317 H411	Harmful if swallowed. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.
Precautionary Statement:	P273 P280  P301+P312  P302+P352  P333+P313  P501	Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or a rash occurs: Get medical advice/attention. Dispose of contents/container to an approved incineration.

Other Hazards Not a PBT, vPvB substance as per the criteria of the REACH Ordinance

### \*\*\*\* SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

Ingredient (Chemical Name)	CAS#	EC#	Symbol(s)	R-phrase(s)	Hazard statements
3-Mercaptopropyltrimethoxy Silane, 98% min.	4420-74-0	224-588-5	Xn  N	R22 R43 R51/53	H302 H317 H411

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## \*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

**General information:** Take persons to a safe place. Observe self-protection for first aid. Before seeking medical attention remove contaminated clothing and shoes. Take a copy of the Safety Data Sheet when going for medical treatment.

**Eyes:** Rinse thoroughly with plenty of water for at least 15 minutes, keeping eyelid open. In case of persistent discomfort, consult an ophthalmologist.

**Skin:** Flush skin with plenty of soap and water.

**Ingestion:** Have the mouth rinsed with water if patient is conscious. Consult a physician immediately.

**Inhalation:** Remove from exposure to fresh air immediately. Consult a physician if symptoms persist.

### **Indication of any immediate medical attention and special treatment needed:**

After absorbing large amounts of substance:

Liberation of reaction products(Methanol) can lead to symptoms of poisoning.

Immediate gastric lavage. Antidote treatment, correction of acid-base balance.

Detection of substance(Methanol) possible in: Blood. Antidote treatment: Ethanol.

Allergic reaction can not be excluded.

Treatment of allergic reaction if necessary

## \*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

**General Information:** Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.

**Suitable extinguishing media:** Use foam, water spray, dry chemical, or carbon dioxide.

**Further information:** Do not direct a solid stream of water or foam into hot, burning pools: this may cause frothing and increase fire intensity. Cool closed containers exposed to fire with water spray.

**Unusual Fire and Explosion Hazards:** Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

**Flash Point:** 88°C(205°F)

**Auto-ignition temperature:** N/A.

**Explosion Limits,** Lower: N/A.

Upper: N/A.

**HMIS Classification**

**NFPA Rating**

Health

2

Health

2

Flammability

2

Fire

2

Physical hazard

1

Reactivity

1

**Advice for firefighters:** Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulation

## \*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

**General Information:** Use proper personal protective equipment as indicated in Section 8. Keep out unprotected persons, ensure adequate ventilation.

**Spills/Leaks:** Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container, to be disposed of in compliance with existing regulations.

**Environmental precautions:** Do not flush into surface water, sanitary sewer system

## \*\*\*\* SECTION 7 - HANDLING AND STORAGE \*\*\*\*

**Handling:** Provide good ventilation or extraction. Take precautionary measures against static discharges. Keep away from sources of ignition – No smoking.

**Storage:** Keep containers tightly closed in a cool, dry, well-ventilated place.

Protect from moisture

## \*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

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## Personal Protective Equipment (PPE)

Eyes: Wear safety glasses and chemical goggles if splashing is possible.

Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

**Hygiene measures:** When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Remove contaminated or saturated clothing. Wash contaminated clothing before re-use.

**Protective measures:** Handle in accordance with good industrial hygiene and safety practices. It should be defined in the work place in the form of a risk analysis according to directive 89/686/EEC and amendments.

If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used.

If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.

Do not breathe in vapors or aerosols. Avoid contact with skin and eyes

## \*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Appearance: Colorless or slight yellowish liquid.

Odor: Ester-like.

pH: N/A.

Vapor Pressure: <1.33 hPa @ 20°C

Vapor Density: >1

Evaporation Rate: <1

Viscosity: 2 mPa.s @ 20°C

BP/BP Range: 212 °C

Freezing/Melting Point: < 0°C

Decomposition Temperature: N/A.

Solubility: Reacts slowly.

Specific Gravity (H<sub>2</sub>O=1): 1.057 g/cm<sup>3</sup> @ 25°C

Molecular Formula: C<sub>6</sub>H<sub>16</sub>O<sub>3</sub>SSi

Molecular Weight: 196.34

## \*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** None established.

**Materials to Avoid:** Oxidizing agents, cures in the presence of water or moisture.

**Hazardous Decomposition Products:** Methanol in case of hydrolysis. Carbon oxides, Oxides of silicon, Sulphur oxides under fire or very high heat condition.

**Hazardous Polymerization:** Has not been reported

## \*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

Acute oral toxicity : LD50 Rat(male): 933 mg/kg. LD50 Rat(female): 774 mg/kg.

Acute dermal toxicity: LD50 Rat(male): 2,608 mg/kg. LD50 Rat(female): 2,268 mg/kg.

Skin irritation: Rabbit, not irritating, 4h.

Eye irritation: Rabbit, not irritating.

Sensitization: Guinea pig, sensitizing.

Carcinogenicity: No experimental information on carcinogenic effects available

## \*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Biodegradability: Not readily biodegradable, 51%

Toxicity to fish: LC50 Brachydanio rerio 439 mg/l/96 h

LC0 Brachydanio rerio 350 mg/l/96 h

Toxicity to daphnia: EC50 Daphnia magna: 6.7mg/l/48h

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Toxicity to algae: EC50 scenedesmus subspicatus: 267 mg/l/72 h  
NOEC scenedesmus subspicatus: 40 mg/l/72 h

#### \*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Dispose of in a manner consistent with federal, state, and local regulations.

Do not reuse empty containers and dispose of in accordance with the regulation issued by the appropriate local authorities. If there is product residue in the emptied container, follow directions for handling on the container's label.

Incorrect disposal or reuse of this container is illegal and can be dangerous.

No waste key number as per the European Waste Typed List can be assigned to this product, since such classification is based on (as yet undetermined) use to which the product is put by the consumer. The waste key number must be determined as per the European Waste Types List(EU Waste Types List 2000/532/EC) in cooperation with the disposal firm, producing firm or authority

#### \*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical name: 3-Mercaptopropyltrimethoxysilane

DOT	Class	UN	PG		PI
	9	3082	III		
IATA/ICAO	Class	UN/ID	PG		PI
	9	3082	III		
IMDG	Class	UN	PG	EmS	PI
	9	3082	III	F-A,S-F	
RID/ADR	Class	UN	PG		PI
	9	3082	III		

#### \*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

##### European/International Regulations

European Labeling in Accordance with EC Directives.

Statutory basis/list: According to Directive 67/548/EEC or 1999/45/EC.

Hazard Symbols:	Xn	Harmful.
	N	Dangerous for the environment.
Risk Phrases:	R22	Harmful if swallowed.
	R43	May cause sensitization by skin contact.
	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases:	S24	Avoid contact with skin.
	S37	Wear suitable gloves.
	S57	Use appropriate container to avoid environmental contamination.
	S60	This material and its container must be disposed of as hazardous waste

##### Other international regulations:

Listed on or in accordance with the following inventories

AICS - Listed/registered  
EINECS - Listed/registered  
ENCS - Listed/registered  
IECSC - Listed/registered  
KECL - Listed/registered  
DSL - Listed/registered  
PICCS - Listed/registered  
TSCA - Listed/registered

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### \*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages