

**MATERIAL SAFETY DATA SHEET**

Date Updated: 29.06.2007  
Version: 3.0  
Regulation EC No. 1907/2006

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**ORGANOSILANE A301****\*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\***MSDS Name: **Organosilane A301**Chemical Name: 3-Aminopropyltrimethoxysilane, 95%  
3-Trimethoxysilylpropylamine, 95%

Company Identification: Dalian Onichem Co., Ltd.

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**\*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\***

CAS#	Chemical Name	EC No.	Classification
13822-56-5	3-Aminopropyltrimethoxysilane	237-511-5	Xi R36/38

**\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*****3.1 Hazards Classifications**

Xi: Irritant

R36/38: irritate to eyes and skin

**3.2 Emergency Overview And Potential Hazards**

Eye contact: Causes eye irritation.

Skin contact: May cause skin irritation.

Inhalation: Inhalation is not expected due to low vapor pressure.

Ingestion: Ingestion of the product may lead to blindness or death. Ingestion is not expected in industrial use.

Additional information on acute health effects: Inhalation exposure to high levels of hydrolysis by-products may cause central nervous system effects.

**3.3 Further information:**

Chronic health effects: none known .

Medical conditions which may be aggravated by exposure: Methanol may aggravate existing liver and/or kidney diseases.

Target organs affected: Liver, kidneys, brain, nervous system, heart, circulatory system.

Carcinogens/Reproductive toxins: There are no carcinogenic ingredients present at or over 0.1% in this material.

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

General information: Get medical attention immediately. Before seeking medical attention remove contaminated clothing and shoes. Take a copy of the Safety Data Sheet when going for medical treatment.

Eyes: immediately hold eyelids apart and flush with plenty of water for at least 15 min. Continue to bathe eyes during transport to medical practitioner.

Skin: immediately flush skin with plenty of water for at least 15 min.

Ingestion: N/A

Inhalation: Hydrolysis product(s): If inhaled remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen.

After swallowing: For Ingestion, if conscious, give no more than two glasses of water and induce vomiting. Vomiting can be induced by giving Syrup of Ipecac. Give fluids until the vomitus is clear. Get medical attention immediately. Indicate the possible formation of: methanol. Designate the product.

Advice for the physician: In case of contact with water material splits off (also in gastrointestinal tract) methanol in larger amounts; therefore consider poisoning on methanol and also observe known period of latency of several days.

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**\*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*****5.1 Flammable properties/ Method**

Flash point: 90°C (DIN 51758)

BP/BP range: 194°C at 1013 hPa

Lower explosion limit (LEL): not determined

Upper explosion limit (UEL): not determined

Ignition temperature: 295°C (DIN 51794)

**5.2 Fire and explosion hazards:**

Caution! Hydrolyzes on contact with moisture releasing ignitable vapors. Explosion limits for hydrolysis product: 5.5-44% v/v (methanol). Consider possible formation of explosive mixtures with air, for example in uncleaned containers.

**5.3 Recommended extinguishing media:**

carbon dioxide , dry chemical or alcohol-resistant foam.

**5.4 Unsuitable extinguishing media:**

water

**5.5 Fire fighting procedures:**

Fire fighters should wear full protective clothing including a self-contained breathing apparatus. Cool endangered containers with water.

**\*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*****6.1 Precautions:**

Wear personal protection equipment (see section 8). Keep unprotected persons away. Avoid contact with eyes and skin. Avoid inhaling mists and vapours. If material is released indicate risk of slipping.

**6.2 Containment:**

Prevent material from entering surface waters, drains or sewers and open soil. Contain any fluid that runs out using suitable material (e.g. earth). Retain contaminated water/extinguishing water. Dispose of in prescribed marked containers.

**6.3 Methods for cleaning up:**

Do not flush away with water. For small amounts: Absorb with a liquid binding material such as diatomaceous earth and dispose of according to local/state/federal regulations. Contain larger amounts and pump up into suitable containers. Clean any slippery coating that remains using a detergent / soap solution or another biodegradable cleaner. Exhaust vapours.

**6.4 Further information:**

To be disposed as per the local regulations. Eliminate all sources of ignition.

**\*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*****7.1 Handling**

Precautions for safe handling: Avoid formation of aerosols. In case of aerosol formation special protective measures are required (exhausting by suction, respiratory protection). Ensure adequate ventilation.

Precautions against fire and explosion: Product can separate methanol. Vapours may form in closed rooms with air mixtures, leading to explosion in the presence of sources of ignition, even in empty, uncleaned vessels. Keep away from sources of ignition and do not smoke.

**7.2 Storage**

Conditions for storage rooms and vessels: normal

Advice for storage of incompatible materials: Avoid contact with acids.

Further information for storage: Protect against moisture. Keep container tightly closed and store in a cool, well ventilated place.

**\*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*****8.1 Engineering controls**

Ventilation: Use only with adequate ventilation.

Local exhaust: To maintain concentration below TLV. Local exhaust ventilation which meets the requirements of ANSI Z9.2 is recommended to control airborne contaminants at the point of use.

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**8.2 Personal protection equipment (PPE)**

Respiratory protection: Respiratory protection is only necessary if long term or high level exposures are likely to occur. Recommendation in case of long or strong exposure: Alternatively use a positive pressure, air-supplied respirator.

Hand protection: butyl rubber protective gloves .

Eye protection: tight fitting chemical safety goggles .

Other protective clothing or equipment: .Provide eye bath and safety shower.

**8.3 General hygiene and protection measures:**

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

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

Appearance: Colorless to light yellowish liquid

Odour: amine-like

PH-Value: over 9.0 for 20g/L solution

BP/BP range: 194°C at 1013 hPa

Freezing/Melting Point: < -60 °C (< -76 °F)

Flash point: 90°C (DIN 51758)

Ignition temperature: 295°C (DIN 51794)

Lower explosion limit (LEL): not determined

Upper explosion limit (UEL): not determined

Vapour pressure: < 1.33 hPa at 20°C

Specific Gravity/Density: 1.014 g/cm<sup>3</sup> at 25 °C (77 °F)

Water solubility / miscibility: Not applicable. Reacts violently with water.

Viscosity: 2 mPa.S at 20°C

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

Chemical Stability: If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

Conditions to avoid: Moisture, heat, open flames, and other sources of ignition.

Materials to avoid: Reacts violently with water and acids to form heat and methanol .

Hazardous decomposition products: methanol

Hazardous polymerization: Not occur.

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

Acute oral toxicity: LD50 rat: 2000mg/kg

Acute dermal toxicity: LD50 rabbit: 2000mg/kg

Skin/Eye toxicity: irritating

Sensitization: guinea pig: not sensitizing

Oral toxicity: Ingestion of methanol or methanol releasing compounds may result in delayed damage to the optic nerves, causing permanent blindness, and if untreated may cause other potentially fatal toxic effects.

Additional information / remarks: all are reported by the literature.

**\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*****12.1 Information on elimination (persistence and degradability)**

Biodegradation / further information: The product of hydrolysis (methanol) is highly biodegradable.

Further information: Contact with water liberates: silanol- and/or siloxanol-compounds and Methanol

Silicone content: Elimination by adsorption in activated sludge.

**12.2 Behaviour in environmental compartments**

N/A -

**12.3 Ecotoxicity effects:**

Species	Test method	Exp. Time	Result	Source
minnow (Pimephales promelas)	acute		1264 mg/l (LC50)	literature
Daphnia magna	acute		302 mg/l (EC50)	literature

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No expected damaging effects to water organisms.

Effects in sewage treatment plants (bacteria toxicity: respiration-/reproduction inhibition):

Test system	Exp. Time	Result	Source
sludge		3400 mg/l (EC50)	literature

Do not introduce large amounts into purification plants.

**12.4 Further ecological information**

Other harmful effects: -

General information: No environmental problems expected if handled and treated in accordance with standard industrial practices and local regulations where applicable.

**\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*****13.1 Product disposal**

Recommendation: Dispose of according to regulations by incineration in a special waste incinerator. Observe local/state/federal regulations.

No waste key number as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) can be assigned to this product.

**13.2 Packaging disposal**

Recommendation: Completely discharge containers (no tear drops, scraped carefully).

Containers may be recycled or re-used. Observe local/state/federal regulations.

**\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*****14.1 US DOT & CANADA TDG SURFACE**

Not regulated for transport

Other Information: DOT regulated as a Combustible Liquid when packaged in bulk containers (> 119 Gallons). Not regulated in containers up to 119 Gal./450 L each

**14.2 Transport by sea IMDG-Code**

Not regulated for transport

**14.3 Air transport ICAO-TI/IATA-DGR**

Not regulated for transport

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

Labelling according to EC Directives

Statutory basis/list: according to Directive 67/548/EEC

Symbols: Xi, Irritant

Risk Phrases:

R36/38: Irritating to eyes and skin.

Safety Phrases:

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: after contact with skin, wash immediately with plenty of water

S37/39: wear suitable gloves with eye protection

This product is listed on the following inventories:

IECSC - China

PICCS - Philippines

ENCS - Japan

ECL - Korea

EINECS - Europe

AICS - Australia

**\*\*\*\* SECTION 16 - OTHER 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

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