

# SAFETY DATA SHEET

Date Updated: 01.10.2013  
Version: 5.0  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

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

## Vinyltriethoxysilane [ Organosilane VEO ]

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

SDS Name: **Vinyltriethoxysilane (Organosilane VEO)**  
Chemical Name: Vinyltriethoxysilane 98%  
Synonym(s): triethoxy(vinyl)silane  
IUPAC Name: ethenyl(triethoxy)silane

REACH Pre-registration number: 17-2119456414-XX-0000

Use of substance/preparation: Monomers, Intermediate, Coatings, Non-metal surface treatment, Sealants, Polymer preparations, Laboratory chemical.

Company Identification: Dalian Onichem Co., Ltd.  
No. 2 Gaoxin Street, Qixianling, Dalian 116023, P.R. China  
Tel: 86-411-84794022, Fax: 86-411-84794077  
Information contact: MSDS@onichem.com  
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).

Flammable liquids Category 3 H226

#### GHS-Labeling:

Globally Harmonized System of Classification and Labelling (GHS)  
Symbol(s):



Hazard Pictogram: GHS02  
Signal Word: Warning

Hazard Statement:	H226	Flammable liquid and vapor.
Precautionary Statement:	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P303+P361+P353	IF ON SKIN(or hair):Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P403+P235	Store in a well-ventilated place. Keep cool.
	P501	Dispose of contents/container an approved incineration plant.

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-phrases(s)	Hazard statements
Vinyltriethoxysilane, 98% min	78-08-0	201-081-7	F	R10	H226

# SAFETY DATA SHEET

Date Updated: 01.10.2013  
Version: 5.0  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

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

## \*\*\*\* 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:** Immediately flush eyes with plenty of water for at least 15 minutes. Obtain medical attention if discomfort persists.

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

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

**Inhalation:** Remove from exposure to fresh air immediately.

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

After absorbing large amounts of substance: administration of activated charcoal.

Acceleration of gastrointestinal passage

## \*\*\*\* 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:** Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Ensure that all equipment is electrically earthed. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

**Flash Point:** 44 °C ( 111°F)

**Auto-ignition temperature:** 245°C ( 473°F)

**Explosion Limits, Lower:** 0.53%(V).

Upper: 15.0%(V)

**HMIS Classification**

**NFPA Rating**

Health 2

Health 2

Flammability 3

Fire 3

Physical hazard 0

Reactivity 0

**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 charges, keep away from sources of ignition. Explosion protection equipment required. Danger of explosion from residual product fumes; therefore avoid spark production through cutting, grinding, or welding work in the area of the container. When repairs of the production system are to be made, the section to be repaired must be essentially free of product.

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

Protect from moisture

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

**Control parameters**

Vinyltriethoxysilane

# SAFETY DATA SHEET

Date Updated: 01.10.2013  
Version: 5.0  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

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

## DNEL/DMEL values

### END USE

Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value

### WORKER

Dermal  
Acute – systemic effects  
N/A.  
Inhalation  
Acute – systemic effects  
N/A.  
Dermal  
Long term – systemic effects  
10.26 mg/kg bodyweight/day  
Inhalation  
Long term – systemic effects  
71.08 mg/m<sup>3</sup>  
Dermal  
Acute - local effects  
N/A  
Inhalation  
Acute - local effects  
N/A  
Dermal  
Long term - local effects  
N/A  
Inhalation  
Long term - local effects  
N/A  
Eyes  
Local effects  
No hazard identified

### END USE

Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value  
Routes of exposure  
Possible health damage  
Value

### GENERAL POPULACE

Dermal  
Acute – systemic effects  
N/A  
Inhalation  
Acute – systemic effects  
N/A  
Oral  
Acute – systemic effects  
N/A.  
Dermal  
Long term – systemic effects  
5.036 mg/kg bodyweight/day  
Inhalation  
Long term – systemic effects  
17.37 mg/m<sup>3</sup>  
Oral  
Long term – systemic effects  
5.036 mg/kg bodyweight/day  
Dermal  
Acute - local effects  
N/A  
Inhalation  
Acute - local effects  
N/A

# SAFETY DATA SHEET

Date Updated: 01.10.2013  
Version: 5.0  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

Routes of exposure	Dermal
Possible health damage	Long term - local effects
Value	N/A
Routes of exposure	Inhalation
Possible health damage	Long term - local effects
Value	N/A
Routes of exposure	Eyes
Possible health damage	Local effects
Value	No hazard identified

<b>PNEC values</b>	Value	Assessment factor
Fresh water:	0.56 mg/l	50
Marine water:	0.056 mg/l	500
Water-intermittent releases	1 mg/l	100
Sediment(freshwater)	2.06 mg/kg(dry weight)	N/A
Sediment(marine water)	0.206 mg/kg(dry weight)	N/A
Soil	0.085 mg/kg(dry weight)	N/A
STP	10 mg/l	

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

### Personal Protective Equipment (PPE)

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

Skin: Wear flame retardant protective gloves when handling larger quantities.

Clothing: Wear flame retardant protective clothing when handling larger quantities..

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. 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. Do not breathe in vapors of aerosols

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

Appearance: Colorless and transparent liquid.

Odor: Fruity

pH: N/A.

Vapor Pressure: 7 hPa @ 20°C

Vapor Density: N/A.

Evaporation rate: N/A.

Viscosity, dynamic: 0.7mPa.s @ 20°C

BP/BP range: 160 °C

Freezing/Melting Point: -93°C

Decomposition Temperature: N/A.

Solubility: not miscible, decomposition by hydrolysis.

Specific Gravity: 0.905 g/cm<sup>3</sup> @ 20°C

Molecular Formula: C<sub>8</sub>H<sub>18</sub>O<sub>3</sub>Si

Molecular Weight: 190.31

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

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

**Conditions to Avoid:** Keep away from heat and sources of ignition. When heated, formation of explosive vapor/air mixtures.

# SAFETY DATA SHEET

Date Updated: 01.10.2013  
Version: 5.0  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

**Incompatibilities with Other Materials:** Alkalis, water, peroxide.  
**Hazardous Decomposition Products:** Ethanol in case of hydrolysis.  
**Hazardous Polymerization:** Will not occur

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

Acute oral toxicity: LD50 rat, >5000 mg/kg  
Acute inhalation toxicity: LD50 rat, 4500 ppm/1h/Aerosol  
Acute dermal toxicity: LD50 rat, >2000mg/kg  
Eye Irritation: Rabbit, not irritating.  
Skin Irritation: Rabbit, not irritating.  
Sensitization: Guinea pig, no sensitizing effects.

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

There is no information available

#### \*\*\*\* 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: FLAMMABLE LIQUID, N.O.S.  
Technical name: Vinyltrimethoxysilane

DOT	Class	UN	PG		PI
	3	1993	III		
IATA/ICAO	Class	UN/ID	PG		PI
	3	1993	III		
IMDG	Class	UN	PG	EmS	PI
	3	1993	III	F-E,S-E	
RID/ADR	Class	UN	PG		PI
	3	1993	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: F Flammable.  
Risk Phrases: R10 Flammable.  
Safety Phrases: S16 Keep away from sources of ignition.  
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

## SAFETY DATA SHEET

Date Updated: 01.10.2013  
Version: 5.0  
Regulation REACH (EC 1907/2006) & CLP (EC 1272/2008)

**ONICHEM**  
Onichem Specialities  
[www.onichem.com](http://www.onichem.com)

---

IECSC - Listed/registered  
KECL - Listed/registered  
DSL - Listed/registered  
PICCS - Listed/registered  
TSCA - Listed/registered

#### \*\*\*\* 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