

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

Organosilane VTO

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

SDS Name: **Organosilane VTO (VOS)**

Chemical Name: Vinyltris(Methylethylketoxime)Silane, 95%

Synonym(s): butan-2-one O,O',O''-(vinylsilyldiyl)trioxime

IUPAC Name: (E)-N-[bis[[[(E)-butan-2-ylideneamino]oxy]-ethenylsilyl]oxy]butan-2-imine

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).

Skin sensitization	Category 1	H317
Eye damage/Irritation	Category 1	H318
Specific target organ toxicity	Category 2	H373

GHS-Labeling:

Globally Harmonized System of Classification and Labelling (GHS)

Symbol(s):



Hazard Pictogram: GHS05, GHS07, GHS08

Signal Word: Danger

Hazard Statement:	H317	May cause an allergic skin reaction.
	H318	Causes serious eye damage.
	H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement:	P260	Do not breathe dust/fume/ gas/mist/vapors/spray.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.	
P501	Dispose of contents/container to 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
Vinyltris(Methylethylketoxime) Silane, 95% min	2224-33-1	218-747-8	Xi Xn	R41 R48/22 R43	H318 H373 H317

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Methylethylketoxime, 2%max	96-29-7	202-496-6	Xn T Xi	R21 R25 R40 R41 R43 R48 R52/53	H312 H301 H351 H318 H317 H373 H412
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**** 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 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 while removing contaminated clothing and shoes. If irritation develops, seek medical attention.

Ingestion: If conscious, allow the victim to rinse his mouth and then to drink plenty of water in small sips. Consult a physician immediately.

Inhalation: Remove from exposure to fresh air immediately. Keep patient half sitting with upper body raised if breathing difficulties occur. Consult a physician immediately.

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically and supportively

**** 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 water spray, foam, carbon dioxide, dry chemical.

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: 105°C (221 °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: Avoid prolonged or repeated contact with eyes, skin, and clothing. Do not breathe vapor.

Storage: Store in a tightly closed container. Store in a dry area. Keep away from heat, sparks, and open flame

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

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 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. 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 to yellowish transparent liquid

Odor: Mild odor

pH: Appr. 7

Vapor Pressure: N/A

Vapor Density: > 1

Evaporation rate: N/A

Viscosity: <1 mPa.s @20°C

BP/BP Range: 113°C @0.1 mmHg

Freezing/Melting Point: -22°C

Decomposition Temperature: N/A

Solubility: Insoluble

Specific Gravity/Density: 0.990 g/cm³ @25°C

Molecular Formula: C₁₄H₂₇N₃O₃Si

Molecular Weight: 313.47

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

Chemical Stability: Stable in sealed containers under normal temperatures and pressures.

Conditions to Avoid: Combustible; avoid contact with heat, sparks or open flame.

Materials to Avoid: Reacts with water and moisture in air and acids liberating methylethylketoxime (MEKO). Contact with iron or steel should be avoided. Contact with electrophiles such as ferric chloride can lead to a violent reaction.

Hazardous Decomposition Products: Organic vapors including methylethylketoxime, methylethylketone, silicon dioxide, CO, CO₂ and NO_x.

Hazardous Polymerization: Will not occur

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

Oral Toxicity: N/A.

Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA

**** 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.

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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 ****

This product is not regulated as dangerous goods by DOT, IMDG, ADR/RID, IATA/ICAO

**** 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:	Xi	Irritant.
	Xn	Harmful.
Risk Phrases:	R36	Irritating to eyes.
	R43	May cause sensitization by skin contact.
	R48/22	Danger of serious damage to health by prolonged exposure if swallowed.
Safety Phrases:	S2	Keep out of the reach of children.
	S13	Keep away from food, drink and animal feedingstuffs.
	S23	Do not breathe gas/fumes/vapor/spray.
	S24/25	Avoid contact with skin and eyes.
	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 soap-suds.
	S37/39	Wear suitable gloves and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice(show the label where possible).
	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

**** 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