



Material Safety Data Sheet WD-933

Section 1 - Chemical Product and Company Identification

MSDS Name: Tetrapropoxysilane, Min.99%

Catalog Numbers: WD-933

Synonyms: Tetrapropyl Orthosilicate.

Company name: WUHAN UNIVERSITY SILICONE NEW MATERIAL CO., LTD.

Telephone: +86-27-68756775 Fax: +86-27-68754159

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
682-01-9	Tetrapropoxysilane	Min.99%	211-659-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless clear liquid.

Warning! Causes respiratory tract irritation. Irritant. Causes eye and skin irritation. May cause digestive tract irritation. Moisture sensitive.

Target Organs: No data found.

Potential Health Effects

Eye: Causes eye irritation. May cause chemical conjunctivitis.

Skin: Causes skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Causes respiratory tract irritation. Can produce delayed pulmonary edema.

Chronic: Effects may be delayed.



Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: Use water spray to cool fire-exposed containers. Do NOT get water inside containers. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: 95 deg C (203.00 deg F)

Density: 0.926 ~ 0.928

Refraction Index: 1.3995 ~ 1.4015

Boiling Point: 94 deg C (5 MMHG)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0



Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Do not get water inside containers.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Do not allow contact with water. Wash clothing before reuse. Keep from contact with moist air and steam.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tetrapropoxysilane	none listed	none listed	none listed

OSHA Vacated PELs: Tetrapropoxysilane: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.



Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Appearance: colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 9.11

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 94 deg C @ 5 mmHg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Not available.

Specific Gravity/Density: .927g/cm³

Molecular Formula: C₁₂H₂₈O₄Si

Molecular Weight: 264.44

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. May decompose on exposure to moist air or water.

Conditions to Avoid: Incompatible materials, moisture, excess heat, strong oxidants, exposure to moist air or water.



Incompatibilities with Other Materials: Moisture, oxidizing agents, strong acids.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, silicon dioxide.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 682-01-9 unlisted.

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 682-01-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.



RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 682-01-9 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances



None of the chemicals in this product have a TPO.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 682-01-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.



WGK (Water Danger/Protection)

CAS# 682-01-9: No information available.

Canada - DSL/NDSL

CAS# 682-01-9 is listed on Canada's DSL List.

Canada – WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/2001

Revision #5 Date: 10/07/2008

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 event shall Fisher 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 Fisher has been advised of the possibility of such damages.