MATERIAL SAFETY DATA SHEET (MSDS)
Organofunctional Silane SCA-V71M

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1	**Production**	SCA-V71M SILANE	
1.2	**Generic Description:**	Alkoxysilane	
1.3	**Physical form:**	Liquid	
1.4	**Color:**	Colorless	
1.5	**Odor:**	No available	
1.6	**NFPA Profile:**	Health	2
		Flammability	3
		Instability/Reactivity	0

1.7 IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Manufacturer:	Nanjing Capatue Chemical Co., Ltd
Address:	20 Jiangjun Avenue, Jiangning Development Zone, Nanjing 211100, Jiangsu Province, China
Telephone:	(+86-25)-8637 1193 Fax: (+86-25) 8637 1191-0
24Hour Emergency Telephone:	(+86-25)-8637 1192
Connect with:	Anhuanbu

2. HAZARDS IDENTIFICATION

Acute Effects

Eye: Direct contact may cause mild irritation.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: Vapor and/or mist may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.

Oral: Overexposure by ingestion may cause effects similar to those listed under repeated exposure. Overexposure by ingestion may cause drowsiness, dizziness, confusion or loss of coordination.

Prolonged/Repeated Exposure Effects

Skin: Repeated skin contact may cause allergic skin reaction. Repeated or prolonged exposure my cause irritation.

Inhalation: Prolonged or repeated exposure by inhalation may injure the following organ(s): Liver.

Oral: Prolonged or repeated exposure by inhalation may injure the following organ(s): Liver.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

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No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
78-08-0	> 98.0	Vinyltriethoxysilane
64-17-5	0.5~1.0	Ethyl alcohol
None	0.1~0.5	Vinylalkoxysilane
78-62-6	0.1~0.5	Diethoxydimethylsilane

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

4.1	**Eye:**	Immediately flush with water for 15 minutes. Get medical attention.
4.2	**Skin:**	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
4.3	**Inhalation:**	Remove to fresh air. Get medical attention if ill effects persist.
4.4	**Oral:**	Get immediate medical attention.
4.5	**Notes to Physician:**	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

5.1	**Flash Point:**	> 111 °F / > 44 °C
5.2	**Autoignition Temperature:**	Not determined.
5.3	**Flammability Limits in Air:**	Not determined.
5.4	**Extinguishing Media:**	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide, dry chemical or water spray. Water can be used to cool fire exposed containers.
5.5	**Extinguishing Measures:**	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. Use water spray to keep fire exposed containers cool.
5.6	**Unusual Fire Hazards:**	Vapors are heavier than air and may travel to a source of

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ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon dioxide and trace of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

6.1 Containment/Clean up:

Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call Capatue Chemical, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves 2-methoxyethanol when exposed to water or humid air. Provide ventilation during use to control 2-methoxyethano exposure guideline or use respiratory protection. Avoid eye contact. Avoid skin contact. Do not breathe vapor. Keep container closed. Do not take internally.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks and flame. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
78-08-0	Vinyltriethoxysilane	See ethyl alcohol comments.
64-17-5	Ethyl alcohol	OSHA PEL(final rule) and ACGIH TLV: TWA 1000 ppm

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Ethyl alcohol is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL and ACGIH TLV: TWA 1000 ppm.

Engineering Controls

Local Ventilation:	Recommended.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection – safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.
Suitable Gloves:	Silver Shield(R). 4H(R).
Inhalation	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposure are within recommended exposure guidelines. Industrial Hygiene Personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Organic Vapor Type.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Use self-contained breathing apparatus (SCBA) or other supplied-air respirator.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Do not breathe vapor, mist, dust or fumes. Keep container closed. Do not take internally. Use reasonable care.
Comments:	Product evolves flammable ethyl alcohol when exposed to water or humid air. Provide ventilation during use to control exposure within Section 8 guidelines or use air-supplied or self-contained breathing apparatus. No Formaldehyde Related Warning.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry or contact the Capatue Chemical customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Colorless

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Odor:	Not Available
Specific Gravity @ 25°C:	0.903
Viscosity @ 25°C:	0.7 cSt
Freezing/Melting Point:	Not determined.
Boiling Point:	>= 160
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined
Flash Point :	> 111 °F / > 44 °C
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Capatue Chemical before writing specifications.

10. STABILITY AND REACTIVITY

10.1	**Chemical Stability:**	Stable
10.2	**Hazardous**	Hazardous polymerization will not occur.
	Polymerization:	None
	Conditions to Avoid:	None
	Materials to Avoid:	Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

Prolonged overexposure to Ethanol has caused human birth defects.

Special Hazard Information on Components

Teratogents

CAS Number	Wt %	Component Name	
64-17-5	0.5~1.0	Ethyl alcohol	Evidence of teratogenicity (birth defects) in humans.

Sensitizers

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CAS Number	Wt %	Component Name	
78-08-0	> 98.0	Vinyltriethoxysilane	Possible skin sensitizer.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

Characteristic Waste:

Ignitable: D001

State or local laws may impose additional regulatory requirements regarding disposal. Call Capatue Chemical, if additional information is required.

14. TRANSPORT INFORMATION

14.1 DOT Road Shipment Information (49 CFR 172.101)

Proper Shipping Name	FLAMMABEL LIQUID, N.O.S.
Hazard Technical Name	VINYLTRIETHYOXYSILANE/METHANOL
Hazard Class	3
UN-No	UN1993
Packaging Group	III
Hazard Label(s)	FLAMMABEL LIQUID LABEL

14.2 Ocean Shipment (IMDG)

Proper Shipping Name	FLAMMABEL LIQUID, N.O.S.

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Hazard Technical Name	VINYLTRIETHYOXYSILANE/METHANOL
Hazard Class	3
UN-No	UN1993
Packaging Group	III
Hazard Label(s)	FLAMMABEL LIQUID LABEL
Marine Pollutant:	NOT APPLICABLE

14.3 Air Shipment (IATA)

Proper Shipping Name	FLAMMABEL LIQUID, N.O.S.
Hazard Technical Name	VINYLTRIETHYOXYSILANE/METHANOL
Hazard Class	3
UN-No	UN1993
Packaging Group	III
Hazard Label(s)	FLAMMABEL LIQUID LABEL

Call Capatue Chemical if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 312 Hazard Class (40 CFR 370):

Acute: Yes

Chronic : Yes

Fire: Yes

Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

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16. OTHER INFORMATION

Prepared by: Nanjing Capatue Chemical Co., Ltd

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.