

HUANGSHAN KBRCHEM CO.,LTD

Material Safety Data Sheet


Page No.: 1/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

- 1.1 Product Name:** KBRCHEM A-171 SILANE
- 1.2 Product Code:** KBR CHEM A-171
- 1.3 Chemical Classification:** Alkoxysilane
- 1.4 Recommended Product Usage and Limited Use:** Adhesion promoter
- 1.5 Company Details**
- Manufacturer/Supplier:** HUANGSHAN KBRCHEM CO., LTD
Address: 16-1-201, jinshan yuan,jiangnan new city, tunxi district, anhui province,china
- Telephone Number:** 0086-559-2335676 **Fax Number:** (0086-559-2331637
Email Address: johnxu@kbrchem.com
Emergency Telephone Number: 400-886-1637
- 1.6 First Issuing Date:** 2009/05/01
- 1.7 Chemical Emergency, Spill, Leak & Fire Exposure during Transport:** CHEMTREC International call: 0086-559-2335676

2. HAZARD IDENTIFICATION

- 2.1 Hazard Classification:** Flammable liquid: Category 2
Acute toxicity (inhalation - vapour): Category 4
- 2.2 Label Elements Including Precautionary Statements**
- Symbol:** 
- Signal Word:** Danger
- Hazard Risk Statement:** Highly flammable liquid and vapour.
Harmful if inhaled.
- Precautionary Statement:** Keep away from ignition sources such as heat/sparks/open flame - No smoking.
Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear suitable protective clothing, gloves and eye/face protection.
Use only outdoors or in a well-ventilated area.
In case of fire, use appropriate fire-fighting measures for extinguishing.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HUANGSHAN KBRCHEM CO.,LTD

Material Safety Data Sheet

Page No.: 2/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Get medical attention/advice if you feel unwell.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of in accordance with local regulations.

2.3 Other Hazard: None known.

Note : This information is based on product test data.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Chemical characterization: Substance

3.2 Hazardous Ingredients

<u>Chemical Name</u>	<u>CAS No.</u>	<u>% (w/w)</u>
Vinyltrimethoxysilane	2768-02-7	much than 99

4. FIRST AID MEASURES

4.1 First Aid Measures

Eyes: Immediately flush with water.
Skin: Wash off with soap and water.
Inhalation: Remove to fresh air. Get medical attention if ill effects persist.
Oral: Get medical attention.
Comments: Treat according to person's condition and specifics of exposure.

4.2 Important Symptoms and Hazard Effects: Harmful if inhaled.

4.3 Personal Protection for First Aid or Rescue Personnel

Respiratory Protection: Use self-contained breathing apparatus (SCBA) or other supplied-air respirator.
Eye Protection: Use full face respirator.
Skin Protection: Washing at mealtime and end of shift is adequate.

4.4 Note to physicians: Treat symptomatically. For further information, the medical practitioner should contact HUANGSH KBRCHEM CO.,LTD.

5. FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media: On large fires use dry chemical or foam. On small fires use CO2 or dry chemical. Water can be used to cool fire exposed containers.

5.2 Unsuitable Extinguishing Media: Water. Do not allow extinguishing medium to contact container contents.

HUANGSHAN KBRCHEM CO.,LTD

Material Safety Data Sheet

Page No.: 3/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

5.3 Specific 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. Prevent a possible fire hazard by bonding and grounding or inert gas purge.
5.4 Special Fire Fighting Procedures:	Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
5.5 Special protective equipment for the Fire Fighters:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions:	Avoid skin and eye contact. Avoid breathing vapor. Keep container closed. Do not take internally.
6.2 Environmental Precautions:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.
6.3 Methods for Cleaning up:	Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protective equipment recommendations described in this MSDS. 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. 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 laws and regulations are applicable.

7. HANDLING AND STORAGE

7.1 Handling Precautions:	Use with adequate ventilation. Product evolves flammable methyl alcohol when exposed to water or humid air. Provide ventilation during use to control methyl alcohol exposures within exposure guidelines or use air-supplied or self-contained breathing apparatus. Avoid skin and eye contact. Avoid breathing vapor. Keep container closed. Do not take internally. Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.
7.2 Storage Conditions:	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.
7.3 Unsuitable Packaging Materials:	None established.

HUANGSHAN KBRCHEM CO.,LTD

Material Safety Data Sheet

Page No.: 4/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Industrial Hygiene Standards:

<u>Ingredients</u>	<u>CAS No.</u>	<u>Exposure Limits</u>
Vinyltrimethoxysilane	2768-02-7	KBRCHEM guide: 10 ppm Ceiling. Also see methyl alcohol comments.
Methyl alcohol forms on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 200 ppm and ACGIH TLV-skin: TWA 200 ppm, STEL 250 ppm.		

8.2 Engineering Controls

Local Ventilation:	Recommended.
General Ventilation:	Recommended.

8.3 Personal Protective Equipment for Routine Handling

Respiratory protection:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Organic Vapor Type.
Eye protection:	Use proper protection - safety glasses as a minimum.
Hand protection:	Chemical protective gloves should be worn where repeated or prolonged contact can occur.
Skin protection:	Washing at mealtime and end of shift is adequate.
Hygiene Measures:	Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.

8.4 Personal Protective Equipment for Spills

Respiratory protection:	Use self-contained breathing apparatus (SCBA) or other supplied-air respirator.
Eye protection:	Use full face respirator.
Skin protection:	Washing at mealtime and end of shift is adequate.
Precautionary Measures:	Avoid skin and eye contact. Avoid breathing vapor. Keep container closed. Do not take internally. Use reasonable care.
Comments:	Product evolves flammable methyl alcohol when exposed to water or humid air. Provide ventilation during use to control methyl alcohol exposures within exposure guidelines or use air-supplied or self-contained breathing apparatus. If this product is heated to > 150 degrees C, trace quantities of formaldehyde may be released, and adequate ventilation is required.

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 HUANGSHAN KBRCHEM CO.,LTD

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical Form:	Liquid
9.2 Color:	Colorless to pale yellow
9.3 Odor:	Alcoholic odor

HUANGSHAN KBRCHEM CO.,LTD

Material Safety Data Sheet

Page No.: 5/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

9.4	pH:	Not determined.
9.5	Melting Point:	Not determined.
9.6	Boiling point/range:	125 °C
9.7	Flash Point:	22.2 °C(Pensky-Martens Closed Cup)
9.8	Explosive Limit:	Not determined.
9.9	Vapor Pressure @ 25°C:	Not determined.
9.10	Vapour Density (air=1):	Not determined.
9.11	Specific Gravity:	0.97 g/cm ³
9.12	Water Solubility:	Not determined.
9.13	Partition Coefficient (n-Octanol/Water):	Not determined.
9.14	Autoignition temperature:	Not determined.
9.15	Decomposition Temperature :	Not determined.
9.16	Odor Threshold:	Not determined.
9.17	Evaporation Rate:	Not determined.
9.18	Flammability (Solid, Gas):	Not applicable.

The above information is not intended for use in preparing product specifications. Contact KBRCHEM before writing specifications.

10. STABILITY AND REACTIVITY

10.1	Stability:	Stable.
10.2	Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
10.3	Conditions to Avoid:	None.
10.4	Materials to Avoid:	Can react with strong oxidising agents. Water, moisture or humid air can cause hazardous vapors to form.
10.5	Hazardous Decomposition Products:	Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

11.1	Route of Exposure:	Inhalation, skin contact and accidental ingestion.
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HUANGSHAN KBRCHEM CO.,LTD

Material Safety Data Sheet

Page No.: 6/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

11.2 Signs and Symptoms of Overexposure:	Harmful if inhaled.
11.3 Acute Toxicity:	LD50: > 5,000 mg/kg - Oral Rat
Eyes¹:	Direct contact may cause temporary redness and discomfort.
Skin¹:	No significant irritation expected from a single short-term exposure.
Ingestion¹:	Low ingestion hazard in normal use.
Inhalation:	Harmful if inhaled. Vapor may irritate nose and throat. Vapor overexposure may cause drowsiness.
11.4 Chronic Toxicity	
Skin:	Repeated or prolonged exposure may cause irritation.
Ingestion:	Repeated ingestion or swallowing large amounts may injure internally.
Inhalation:	Prolonged or repeated exposure by inhalation may injure internally.
11.5 Other Health Hazard Information:	This material may liberate methanol upon exposure to moisture or humid air. Overexposure to methanol can result in blindness and nervous system effects.

Note ¹ Based on product test data.

² Based on test data from similar products.

12. ECOLOGICAL INFORMATION

12.1 Aquatic and Terrestrial Ecotoxicity	
Ecotoxicity Effects:	
Acute:	No adverse effects on aquatic organisms are predicted.
Chronic:	No adverse effects on aquatic organisms are predicted.
Fate and Effects in Waste Water Treatment Plants:	No adverse effects on bacteria are predicted.
12.2 Persistence and Degradability	
Water:	This product hydrolyses in water or moist air, releasing methanol and organosilicons.
12.3 Bioaccumulative Potential	
Bioaccumulation:	No bioaccumulation is predicted.
12.4 Mobility in Soil:	As a result of their physico/chemical properties, the products of hydrolysis will bind to sediment.
12.5 Additional Environmental Information:	No specific information is available.

13. DISPOSAL CONSIDERATIONS

13.1 Product Disposal:	Dispose of in accordance with local regulations.
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HUANGSHAN KBRCHEM CO.,LTD
Material Safety Data Sheet

Page No.: 7/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

13.2 Packaging Disposal: Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

14.1 Road and Rail Transport

UN No.: 1993
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: Vinyltrimethoxysilane
Class: 3
Packing Group: II
Hazard Label(s): Flammable Liquid

14.2 Sea Transport (IMDG)

UN No.: 1993
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: Vinyltrimethoxysilane
Class: 3
Packing Group: II
Marine Pollutant (Yes/No): No
Hazard Label(s): flammable liquid

14.3 Air Transport (IATA)

UN No.: 1993
Proper Shipping Name: Flammable liquid, n.o.s.
Technical Name: Vinyltrimethoxysilane
Class: 3
Packing Group: II
Hazard Label(s): Flammable Liquid

14.4 Special Requirements and Additional Information : None.

15. REGULATORY INFORMATION

15.1 Applicable Laws: Provisions of the Regulations for the Safe Handling of Chemicals in the Workplace
The Regulations for Safe Management of Dangerous Chemicals (promulgated by the PRC Government on 1-2-2002.)
Code of Practice for Safe Management of Dangerous Chemicals (Ministry of Labor, No.677-1992).
General rule for classification and hazard communication of chemicals [GB 13690-2009]

15.2 Chemical Inventories

EINECS: All ingredients listed or exempt.
DSL: All chemical substances in this material are included on or exempted from the DSL.
AICS: All ingredients listed or exempt.
TSCA: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

HUANGSHAN KBRCHEM CO.,LTD
Material Safety Data Sheet

Page No.: 8/8
Last Revision Date: 2009/04/08

KBRCHEM A-171 SILANE

PICCS:	All ingredients listed or exempt.
KECL:	All ingredients listed, exempt or notified.
ENCS/ISHL:	All components are listed on ENCS/ISHL or its exempt rule.
IECSC:	All ingredients listed or exempt.
HSNO:	All ingredients listed or exempt.

16. OTHER INFORMATION

16.1 Contact Point: Technical Information Cente 008-559-2335676

16.2 Prepared by: **HUANGSHAN KBRCHEM CO.,LTD**

Legend:

- No specific information available

This information is offered in good faith as typical values and not as a product specification. No warranty, 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.