SAFETY DATA SHEET

1. Identification

Product identifier **KE-4971**

Other means of identification

Sales Code GPWHS5

Recommended use RTV rubbers
RTV rubber for electrical, electronic and general industry (coating)

Recommended restrictions Industrial use only.

Manufacturer/Importer/Supplier/Distributor information

Name Shin-Etsu Silicones of America, Inc.
Address 1150 Damar Drive, Akron, OH 44305 USA
Contact Regulation compliance group
Telephone Number +1-330-630-9860
Fax Number +1-330-630-9855
Emergency Phone Number Chemtrec: +1-800-424-9300 (Within US)
Chemtrec: +1-703-527-3887 (Outside US)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Reproductive toxicity (the unborn child)	Category 2
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

Label elements

Signal word Warning

Hazard statement Flammable liquid and vapor. Suspected of damaging the unborn child.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection.

Response In case of fire: Use water fog, foam, dry chemical powder or carbon dioxide(CO2) to extinguish. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF exposed or concerned: Get medical advice/attention.

Storage Store in a well-ventilated place. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

Substance(s) formed under the condition of use This product reacts with water , moisture or humid air to evolve following compounds: Methanol

HMIS® ratings Health: 1*
Flammability: 3
Physical hazard: 0

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Alkoxysilane*		Proprietary*	1 - < 3
Alkoxysiloxane*		Proprietary*	< 1
Toluene		108-88-3	< 1

Decomposition

Chemical name	CAS number	%
Methanol	67-56-1	

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact
Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact
Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Get medical attention immediately.

Most important symptoms/effects, acute and delayed
Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed
Treat symptomatically.

General information
IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
By heating and fire, harmful vapors/gases may be formed.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.

Fire-fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

General fire hazards
Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch or walk through spilled material. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling

All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Provide adequate ventilation. Use care in handling/storage. Obtain special instructions before use. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharges. Use personal protective equipment as required. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Do not handle until all safety precautions have been read and understood. Pregnant or breastfeeding women must not handle this product. Do not breathe mist or vapor. Avoid prolonged exposure.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in cool place. Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight. Keep in original container.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Decomposition	Type	Value
Methanol (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Toluene (CAS 108-88-3)	TWA	20 ppm

Decomposition	Type	Value
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm

Decomposition	Type	Value
Methanol (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

Decomposition	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US. ACGIH Threshold Limit Values

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Methanol(Impurity) (CAS 67-56-1)	Can be absorbed through the skin.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

METHYL ALCOHOL; METHANOL (CAS 67-56-1)	Can be absorbed through the skin.
	Can be absorbed through the skin.
TOLUENE; TOLUOL (CAS 108-88-3)	Can be absorbed through the skin.

US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).

Methanol (CAS 67-56-1)	Skin designation applies.
Methanol(Impurity) (CAS 67-56-1)	Skin designation applies.
Toluene (CAS 108-88-3)	Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Methanol(Impurity) (CAS 67-56-1)	Can be absorbed through the skin.

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Methanol(Impurity) (CAS 67-56-1)	Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Provide eyewash station. Pay attention to ventilation such as local exhaust, mechanical and/or door open for at least 24 hours after application.

Individual protection measures, such as personal protective equipment

Eye/face protection Tightly sealed safety glasses according to EN 166.

Skin protection

Hand protection Wear protective gloves.

Other Wear suitable protective clothing.

Respiratory protection If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Form Liquid.

Color Light yellow. Clear.

Odor Slight odor.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not applicable

Initial boiling point and boiling range Not applicable

Flash point 138.2 °F (59 °C) Closed Cup (Does not sustain combustion)

Evaporation rate < 1 (Butyl Acetate=1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) No data

Flammability limit - upper (%) No data

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Negligible (25 °C)

Vapor density > 1 (air=1)

Relative density 0.98 (23 °C)

Solubility(ies)

Solubility (water) Not soluble

Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	No data
Decomposition temperature	Not available.
Viscosity	550 mPa·s (23 °C)
Other information	
Molecular weight	Not applicable

10. Stability and reactivity

Reactivity	No hazardous reaction known under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None known.
Incompatible materials	Strong oxidizing agents. Water, moisture.
Hazardous decomposition products	This product reacts with water, moisture or humid air to evolve following compounds: Methanol Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Alkoxysilane (CAS Proprietary)		
Acute		
Inhalation		
LC50	Rat	> 7605 ppm OECD 403
Oral		
LD50	Rat	12300 µl/kg
Subchronic		
Inhalation		
NOAEL	Rat	0.56 mg/l OECD 413
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12124 mg/kg 14.1 ml/kg
Inhalation		
LC50	Mouse	400 ppm, 24 hours
Oral		
LD50	Rat	5000 mg/kg 2.6 g/kg

Decomposition	Species	Test Results
Methanol (CAS 67-56-1)		
Acute		
Dermal		
LD50	Rabbit	15800 mg/kg
Inhalation		
LC50	Rat	64000 ppm, 4 Hours
		87.5 mg/l, 6 Hours
Oral		
LD50	Mouse	7300 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg

Skin corrosion/irritation Causes skin irritation. [Toluene]

Serious eye damage/eye irritation Causes eye irritation. [Toluene]

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization Not available.

Germ cell mutagenicity Not available.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Suspected of damaging the unborn child. [Toluene]

Specific target organ toxicity - single exposure May cause damage to the following organs.
Narcotic effects. [Toluene]

Specific target organ toxicity - repeated exposure May cause damage to the following organs through prolonged or repeated exposure:
Central nervous system. [Toluene]

Aspiration hazard May be fatal if swallowed and enters airways. [Toluene]

Further information This product reacts with water , moisture or humid air to evolve following compounds:
Methanol

12. Ecological information

Ecotoxicity Toxic to aquatic life. Harmful to aquatic life with long lasting effects. [Toluene]

Components		Species	Test Results
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	5.5 mg/l, 96 hours

Decomposition		Species	Test Results
Methanol (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

Persistence and degradability Causes easily hydrolysis in water or atmosphere. [Alkoxysilane]

Bioaccumulative potential Not available.

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Follow applicable Federal, State and Local regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This product is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 313 (TRI reporting)

US state regulations

US. Massachusetts RTK - Substance List

Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. New Jersey Worker and Community Right-to-Know Act

Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. Rhode Island RTK

Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol(Impurity) (CAS 67-56-1)	Listed: March 16, 2012
Toluene (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-17-2015

Version # 01

NFPA ratings Health: 1
Flammability: 3
Instability: 0

NFPA ratings

Disclaimer 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.
This product has been designed, manufactured and developed solely for general industrial use only. This product is not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of this product for any application, to make preliminary tests, and to confirm the safety of this product for their use. Users must never use this product for the purpose of implantation into the human body and/or injection into humans.

Revision Information Composition / Information on Ingredients: Additional Components
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Ecological Information: Ecotoxicity
Transport Information: Material Transportation Information
Regulatory Information: Risk Phrases - Class.
HazReg Data: Pacific Rim
GHS: Classification