



SAFETY DATA SHEET

1. Identification

Product identifier	KE-3417
Other means of identification	
Sales Code	6052S0
Recommended use	RTV rubbers Ultra heat-resistant RTV rubber (gluing and sealing)
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 2
Health hazards	Serious eye damage/eye irritation	Category 2A
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

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

Label elements



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Causes serious eye irritation. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	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. Wash thoroughly after handling. Avoid release to the environment.
Response	In case of fire: Use water fog, foam, dry chemical powder or carbon dioxide(CO2) to extinguish. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Collect spillage.
Storage	Store in a well-ventilated place. Keep cool.
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:
Acetone
The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards.
Carbon black.

HMIS® ratings

Health: 2
Flammability: 3
Physical hazard: 0

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Carbon black		1333-86-4	10 - < 20
Iron oxide*		Proprietary*	1 - < 3
Alkoxysilane*		Proprietary*	< 1
Alkoxysilane*		Proprietary*	< 1
Organosilane*		Proprietary*	< 1

Decomposition

Chemical name	CAS number	%
Acetone	67-64-1	

*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	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed. Nitrogen oxides. (corrosive)
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	Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
General fire hazards	Highly 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.
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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: 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: 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. Vapors may form explosive mixtures with air. Provide adequate ventilation.

Use care in handling/storage. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using 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 breathe mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure.

Conditions for safe storage, including any incompatibilities

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)

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	PEL	3.5 mg/m ³	
Iron oxide (CAS Proprietary)	PEL	10 mg/m ³	Fume.
Decomposition	Type	Value	
Acetone (CAS 67-64-1)	PEL	2400 mg/m ³ 1000 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
Iron oxide (CAS Proprietary)	TWA	5 mg/m ³	Respirable fraction.
Decomposition	Type	Value	
Acetone (CAS 67-64-1)	STEL TWA	750 ppm 500 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	0.1 mg/m ³	
Iron oxide (CAS Proprietary)	TWA	5 mg/m ³	Dust and fume.
Decomposition	Type	Value	
Acetone (CAS 67-64-1)	TWA	590 mg/m ³ 250 ppm	

Biological limit values**ACGIH Biological Exposure Indices**

Decomposition	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*

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

Exposure guidelines**US. ACGIH Threshold Limit Values**

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.

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

Methanol(Impurity) (CAS 67-56-1) Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

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

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

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. Avoid contact with skin. Avoid contact with eyes. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Form Paste.

Color Black.

Odor Acetone odor

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not applicable

Initial boiling point and boiling range Not applicable

Flash point 68 °F (20 °C) Closed Cup

Evaporation rate < 1 (Butyl Acetate=1)

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 2.1 % v/v [Acetone]

Flammability limit - upper (%) 13.0 % v/v [Acetone]

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Negligible (25 °C)

Vapor density > 1 (air=1)

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Relative density	1.05 (25 °C)
Solubility(ies)	
Solubility (water)	Not soluble
Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	45 Pa·s (25 °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: Acetone. 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. Nitrogen oxides. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Alkoxysilane (CAS Proprietary)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg 16 ml/kg
<i>Inhalation</i>		
LC50	Rat	1.49 - 2.44 mg/l/4h
<i>Oral</i>		
LD50	Rat	2995 mg/kg 2400 mg/kg
Carbon black (CAS 1333-86-4)		
Acute		
<i>Oral</i>		
LD50	Rat	> 8000 mg/kg



Components	Species	Test Results
Organosilane (CAS Proprietary)		
Acute		
<i>Oral</i>		
LD50	Rat	3.67 ml/kg
Decomposition	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Inhalation</i>		
LC50	Rat	50.1 mg/l, 8 Hours
<i>Oral</i>		
LD50	Mouse	3000 mg/kg
	Rabbit	5340 mg/kg
	Rat	5800 mg/kg
Skin corrosion/irritation	SKIN-RABBIT : MILD(P.I.I=0.2) [Alkoxysilane] SKIN-RABBIT : Moderately irritating [Alkenoxysilane] Causes visible necrosis of the skin tissue (Rabbit/60 Minutes) [Organosilane]	
Serious eye damage/eye irritation	EYE-RABBIT :Minimal irritant [Alkenoxysilane] EYE-RABBIT : 15mg SEVERE [Alkoxysilane] Causes serious eye damage. [Organosilane] Causes serious eye irritation. [Acetone]	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	No skin sensitizing(guinea pigs) [Alkenoxysilane] Positive (Guinea pig) [Alkoxysilane]	
Germ cell mutagenicity	Negative(Bacteria), Negative(Chromosome analysis) [Alkenoxysilane] Negative(Ames test, Chromosome analysis, Micronucleus test) [Alkoxysilane]	
Carcinogenicity	The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards. Carbon black.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Carbon black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.	
Iron oxide (CAS Proprietary)	3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	Developmental toxicity: NOAEL 500mg/kg/day (Rat), Maternal toxicity: NOAEL 500mg/kg/day (Rat) [Alkoxysilane]	
Specific target organ toxicity - single exposure	May cause damage to the following organs. Narcotic effects. [Acetone]	
Specific target organ toxicity - repeated exposure	Not available.	
Aspiration hazard	Not available.	
Chronic effects	Prolonged inhalation may be harmful.	
Further information	This product reacts with water , moisture or humid air to evolve following compounds: Acetone	

12. Ecological information

Ecotoxicity			
Components	Species	Test Results	
Alkoxysilane (CAS Proprietary)			
Aquatic			
Algae	EbC50	Green algae (Selenastrum capricornutum)	5.5 mg/l, 72 hr
	ErC50	Green algae (Selenastrum capricornutum)	8.8 mg/l, 72 hr



Components		Species	Test Results
Crustacea	EC50	Water flea (Daphnia magna)	90 mg/l, 48 hr
Fish	LC50	Bluegill (Lepomis macrochirus)	> 100 mg/l, 96 hr
		Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hr
		Rainbow Trout	> 100 mg/l, 96 hr
Decomposition		Species	Test Results

Acetone (CAS 67-64-1)

Aquatic

Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 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

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Alkenoxysilane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Alkenoxysilane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	Applicable
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Alkenoxysilane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II

Material name: KE-3417

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Environmental hazards

Marine pollutant

Yes

EmS

F-E, S-E*

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

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.

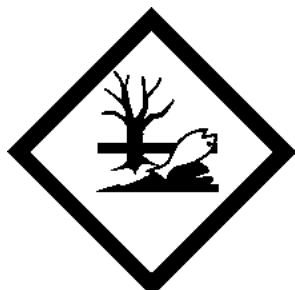
DOT



IATA; IMDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

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

- Carbon black (CAS 1333-86-4)
- Iron oxide (CAS Proprietary)
- Methanol(Impurity) (CAS 67-56-1)

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

Carbon black (CAS 1333-86-4)
 Iron oxide (CAS Proprietary)
 Methanol(Impurity) (CAS 67-56-1)

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

Carbon black (CAS 1333-86-4)
 Iron oxide (CAS Proprietary)
 Methanol(Impurity) (CAS 67-56-1)

US. Rhode Island RTK

Methanol(Impurity) (CAS 67-56-1)

US. California Proposition 65

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

The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards.
 Carbon black.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Carbon black (CAS 1333-86-4) Listed: February 21, 2003

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

Methanol(Impurity) (CAS 67-56-1) Listed: March 16, 2012

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)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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	03-27-2015
Version #	01
NFPA ratings	Health: 2 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

Product and Company Identification: Product and Company Identification

Composition / Information on Ingredients: Additional Components

Physical & Chemical Properties: Multiple Properties

Toxicological Information: Toxicological Data

Ecological Information: Ecotoxicity

Transport Information: Proper Shipping Name/Packing Group

HazReg Data: Pacific Rim

GHS: Classification



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