

1. Identification

Product identifier	KE-4560-G
Other means of identification	
Sales Code	2424S0
Recommended use	RTV rubbers Thermally conductive 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	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1B
	Specific target organ toxicity, repeated exposure	Category 2 (hematopoietic system)
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 Causes serious eye irritation. May cause an allergic skin reaction. May cause damage to organs (hematopoietic system) through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe dust /fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Get medical advice / attention if you feel unwell. 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. Take off contaminated clothing and wash it before reuse.

Storage Not available.

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:
Methylethylketoxime

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Aluminum oxide		1344-28-1	50 - 60
Methyloximesilane		22984-54-9	3 - 10
Titanium oxide		13463-67-7	0.3 - 1
Alkoxysilane		919-30-2	0.3 - 1
Methylethylketoxime (Impurity)		96-29-7	< 1

Decomposition

Chemical name	Common name and synonyms	CAS number	%
Methylethylketoxime		96-29-7	

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
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 immediately.
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 an allergic skin reaction. Dermatitis. Rash.
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.

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 damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	Eliminate sources of ignition. 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.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Use care in handling/storage. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. 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 container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS). 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
Aluminum oxide (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Titanium oxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3	

US. Workplace Environmental Exposure Level (WEEL) Guides

Decomposition	Type	Value
Methylethylketoxime (CAS 96-29-7)	TWA	36 mg/m3
		10 ppm

Vendor guide

Decomposition	Type	Value
Methylethylketoxime (CAS 96-29-7)	STEL	10 ppm
	TWA	3 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Toluene (CAS 108-88-3)

Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3)

Skin designation applies.

Appropriate engineering controls

Provide adequate 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	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	Grey.
Odor	Oxime odor
Odor threshold	Not available.
pH	Not measurable (Refer to water solubility)
Melting point/freezing point	No data
Initial boiling point and boiling range	Not applicable
Flash point	> 143.6 °F (> 62 °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	1.7 (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	Not applicable
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: Methylethylketoxime. 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

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Alkoxysilane (CAS 919-30-2)		
Acute		
Dermal		
LD50	Rabbit	4290 mg/kg
Oral		
LD50	Rat	1570 - 3650 mg/kg 1780 mg/kg

Decomposition	Species	Test Results
Methylethylketoxime (CAS 96-29-7)		
Acute		
Dermal		
LD50	Rabbit	> 1000 mg/kg (Male and female)
Inhalation		
<i>Vapor</i>		
LC50	Rat	> 4.83 mg/l, 4 hours (Male and female)
Oral		
LD50	Rat	> 900 mg/kg (Male and female) 2326 mg/kg (Male)

Skin corrosion/irritation	SKIN-RABBIT : 5mg/24Hr SEVERE [Alkoxysilane]
Serious eye damage/eye irritation	Causes serious eye irritation. [Methyloximesilane] EYE-RABBIT : 0.75mg/24Hr SEVERE [Alkoxysilane] Causes serious eye damage. [Methylethylketoxime]

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	May cause an allergic skin reaction. [Methyloximesilane] [Alkoxysilane] [Methylethylketoxime]

Germ cell mutagenicity	Negative(Ames Test) [Alkoxysilane]
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Carcinogenicity	Suspected of causing cancer. [Methylethylketoxime] 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 of the following material. Titanium oxide.
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IARC Monographs. Overall Evaluation of Carcinogenicity

Titanium oxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not available.
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Specific target organ toxicity - single exposure	Not available.
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Specific target organ toxicity - repeated exposure	May cause damage to the following organs through prolonged or repeated exposure: Hematopoietic system. [Methyloximesilane]
Aspiration hazard	Not applicable.
Further information	Additional Information Methyl Ethyl Ketoxime (MEKO). Material will generate MEKO on exposure to humid air gradually. Male rodents exposed to MEKO vapor at high concentration throughout their lifetime developed liver cancer. But relevance to humans is uncertain now. Please read the detail information to MEKO below Skin Irritation ;Causes mild irritation. Can be absorbed through the skin. Eyes Irritation ;Causes severe irritation. Acute Oral Tox. ;LD50(rat)= >900mg/kg. Acute Dermal Tox. ;LD50(rabbit)= >1000mg/kg. Acute Inhalation Tox.;LC50(rat) > 4.83mg/l/4Hr Inhalation Tox. ;Shows narcotic action at high concentration. May produce blood effects Skin Sensitization ;Positive(guinea pig) Neurotoxicity ;High dose can produce transient and reversible change in neurobehavioral function. Carcinogenicity ;Liver carcinomas were observed in a lifetime inhalation study (ca.2 years) in which mice and rats were exposed. Other Chronic Study ;Degenerative effects on the olfactory epithelium of nasal passages occurred in a concentration related manner in males and females of mice and rats at MEKO concentration of 15, 75 and 375ppm. The significant change in hematological parameters were observed at 404ppm concentration. Other Chronic Study ;Degenerative effects on the olfactory epithelium of nasal passages occurred in a concentration related manner in males and females of mice and rats at MEKO concentration of 15, 75 and 375ppm. Workplace Environmental Exposure Level; Vendor guide ; 3ppm(TWA), 10ppm(STEL), AIHA WEEL ; 10ppm(TWA)

12. Ecological information

Ecotoxicity

Product		Species	Test Results
KE-4560-G			
Aquatic			
Fish	LC50	Fish	86333.3333 mg/l, 96 hours estimated
Components		Species	Test Results
Alkoxysilane (CAS 919-30-2)			
Aquatic			
Fish	LC50	Oryzias latipes	> 1000 mg/l, 48 hr
Titanium oxide (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours
Decomposition		Species	Test Results
Methylethylketoxime (CAS 96-29-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	777 - 914 mg/l, 96 hours
Persistence and degradability	Causes easily hydrolysis in water or atmosphere. [Alkoxysilane]		
Bioaccumulative potential	No data available.		
Mobility in soil	Not available.		
Mobility in general	No data available.		
Other adverse effects	Not available.		

13. Disposal considerations

Disposal instructions	Follow applicable Federal, State and Local regulations.
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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.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Toluene (CAS 108-88-3) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 313 (TRI reporting)

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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

Titanium oxide (CAS 13463-67-7) Listed: September 2, 2011

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

Toluene (CAS 108-88-3) Listed: January 1, 1991

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Titanium oxide (CAS 13463-67-7)

Toluene (CAS 108-88-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
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)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
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 07-13-2020
Revision date 10-21-2021
Version # 02
HMIS® ratings Health: 2*
Flammability: 1
Physical hazard: 0
NFPA ratings Health: 2
Flammability: 1
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: Physical States
Hazard(s) identification: Hazard statement
Hazard(s) identification: Prevention
Hazard(s) identification: Substance(s) formed under the condition of use
Composition / Information on Ingredients: Disclosure Overrides
Handling and storage: Precautions for safe handling
Toxicological information: Aspiration hazard
Toxicological information: Respiratory sensitization
Toxicological information: Inhalation
Toxicological information: Symptoms related to the physical, chemical and toxicological characteristics
Regulatory Information: United States
Regulatory information: US state regulations
Other information, including date of preparation or last revision: References
GHS: Classification