SAFETY DATA SHEET

1. Identification

Product identifier X-832-050-A

Other means of identification None.

Recommended use Industrial use only

Recommended restrictions None known.

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 Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

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

Label elements

Hazard symbol None.

Signal word None.

Hazard statement Not available.

Precautionary statement

Prevention Not available.

Response Not available.

Storage Not available.

Disposal Not available.

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

Supplemental information None.

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Cyclopentasiloxane, decamethyl-		541-02-6	0.000994
Octamethylcyclotetrasiloxane (impurity)		556-67-2	0.000994
Cyclotetrasiloxane, octamethyl-		556-67-2	0.000006
Decamethylcyclopentasiloxane		541-02-6	0.000006

*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.
Eye contact	Rinse immediately with plenty of water for at least 15 minutes.
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	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	Not available.
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. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	Eliminate sources of ignition. The product is immiscible with water and will spread on the water surface. 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. 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. Collect for salvage or disposal.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist or vapor. Provide adequate ventilation. When curing provide adequate ventilation. When curing do not breathe vapor.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry place out of direct sunlight. Keep in original container.

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Cyclopentasiloxane, decamethyl- (CAS 541-02-6)	TWA	10 ppm
Cyclotetrasiloxane, octamethyl- (CAS 556-67-2)	TWA	10 ppm
Decamethylcyclopentasiloxane (CAS 541-02-6)	TWA	10 ppm
Octamethylcyclotetrasiloxane (impurity) (CAS 556-67-2)	TWA	10 ppm

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

Appropriate engineering controls	Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tightly sealed safety glasses according to EN 166.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	No special protective equipment required.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. If ventilation is insufficient when heating use chemical respirator with organic vapor cartridge. If ventilation is insufficient when curing use chemical respirator with organic vapor cartridge.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. This product can generate formaldehyde at approximately 150 °C (300 °F) and above in the presence of air. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential cancer hazard. So, use adequate ventilation or wear protective equipment such as gloves, goggles, organic vapor respirator or protective clothing when this product is heated at approximately 150 °C (300 °F) and above in the presence of air.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Odorless
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 482 °F (> 250 °C) Open Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.51 lb/gal
Specific gravity	1.02

10. Stability and reactivity

Reactivity	Not available.
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.
Hazardous decomposition products	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	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
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
Cyclotetrasiloxane, octamethyl- (CAS 556-67-2)		
Acute		
Inhalation		
Vapor		
LC50	Rat	> 5000 mg/m3, 4 hours
Oral		
Liquid		
LD50	Rat	> 5000 mg/kg
Decamethylcyclopentasiloxane (CAS 541-02-6)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg bw/day (comparable to OECD 402)
Oral		
LD50	Rat	> 5000 mg/kg (comparable to the now deleted OECD 401)
Chronic		
Inhalation		
NOAEC	Rat	>= 160 ppm, 2 years (equivalent to OECD 453)
Subchronic		
Oral		
NOAEL	Rat	>= 1000 mg/kg bw/day, 90 days (OECD 408)
Octamethylcyclotetrasiloxane (impurity) (CAS 556-67-2)		
Acute		
Inhalation		
Vapor		
LC50	Rat	> 5000 mg/m3, 4 hours
Oral		
Liquid		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Not available.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization Not available.

Germ cell mutagenicity Not available.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Further information This product can generate formaldehyde at approximately 150 °C (300 °F) and above in the presence of air. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential cancer hazard. So, use adequate ventilation or wear protective equipment such as gloves, goggles, organic vapor respirator or protective clothing when this product is heated at approximately 150 °C (300 °F) and above in the presence of air.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
X-832-050-A			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	1500000 µg/l, 48 h estimated
Fish	LC50	Fish	1415000 µg/l, 96 h estimated
Components		**Species**	**Test Results**
Cyclotetrasiloxane, octamethyl- (CAS 556-67-2)			
Aquatic			
Acute			
Algae	ErC10	Pseudokirchneriella subcapitata	>= 22 µg/l, 96 h
	ErC50	Pseudokirchneriella subcapitata	> 22 µg/l, 96 h
Crustacea	EC50	Daphnia magna	> 15 µg/l, 48 h
	LC50	Americamysis bahia	> 9.1 µg/l, 96 h
Fish	LC50	Cyprinodon variegatus	> 6.3 µg/l, 14 d
			6.3 µg/l, 96 h
		Oncorhynchus mykiss	> 22 µg/l, 96 h
			10 µg/l, 14 d
	NOEC	Cyprinodon variegatus	> 63 µg/l, 14 d
		Oncorhynchus mykiss	4.4 µg/l, 14 d
Chronic			
Crustacea	NOEC	Daphnia magna	>= 15 µg/l, 21 d
Fish	NOEC	Oncorhynchus mykiss	>= 4.4 µg/l, 93 d fish early life stage toxicity
Decamethylcyclopentasiloxane (CAS 541-02-6)			
Aquatic			
Algae	EC50	Pseudokirchneriella subcapitata	> 12 µg/l, 72 hr

Components		Species	Test Results
	NOEC	Pseudokirchneriella subcapitata	> 12 µg/l
Crustacea	EC50	Daphnia magna	> 2.9 µg/l, 48 hr
	NOEC	Daphnia magna	>= 15 µg/l, 21 day study : reproduction and growth
Fish	LC50	Oncorhynchus mykiss	> 16 µg/l, 96 hr
	NOEC	Oncorhynchus mykiss	>= 14.4 µg/l, 90 day study: fish early life-stages
Octamethylcyclotetrasiloxane (impurity) (CAS 556-67-2)			
Aquatic			
Acute			
Algae	ErC10	Pseudokirchneriella subcapitata	>= 22 µg/l, 96 h
	ErC50	Pseudokirchneriella subcapitata	> 22 µg/l, 96 h
Crustacea	EC50	Daphnia magna	> 15 µg/l, 48 h
	LC50	Americamysis bahia	> 9.1 µg/l, 96 h
Fish	LC50	Cyprinodon variegatus	> 6.3 µg/l, 14 d
			6.3 µg/l, 96 h
		Oncorhynchus mykiss	> 22 µg/l, 96 h
			10 µg/l, 14 d
	NOEC	Cyprinodon variegatus	> 63 µg/l, 14 d
		Oncorhynchus mykiss	4.4 µg/l, 14 d
Chronic			
Crustacea	NOEC	Daphnia magna	>= 15 µg/l, 21 d
Fish	NOEC	Oncorhynchus mykiss	>= 4.4 µg/l, 93 d fish early life stage toxicity

Persistence and degradability No data available.

Photolysis

Half-life (Photolysis-atmospheric)

Cyclotetrasiloxane, octamethyl-	15.8 days, indirect photolysis
Decamethylcyclopentasiloxane	10.4 days, indirect photolysis
Octamethylcyclotetrasiloxane (impurity)	15.8 days, indirect photolysis

Hydrolysis

Half-life (Hydrolysis)

Cyclotetrasiloxane, octamethyl-	0.9 - 1 h (pH9; 25°C) 1.8 h (pH4; 25°C) 69.3 - 144 h (pH7; 25°C)
Decamethylcyclopentasiloxane	73.4 days (pH 7 and 25 °C)
Octamethylcyclotetrasiloxane (impurity)	0.9 - 1 h (pH9; 25°C) 1.8 h (pH4; 25°C) 69.3 - 144 h (pH7; 25°C)

Biodegradability

Percent degradation (Aerobic biodegradation-ready)

Cyclotetrasiloxane, octamethyl-	OECD 301, Not readily biodegradable.
Decamethylcyclopentasiloxane	OECD 301, Not readily biodegradable.
Octamethylcyclotetrasiloxane (impurity)	OECD 301, Not readily biodegradable.

Percent degradation (Aerobic biodegradation-soil)

Cyclotetrasiloxane, octamethyl-	0.04 days Half-life in soil, at 22 °C in tropical Wahiawa soil in closed system.
Decamethylcyclopentasiloxane	0.08 days Half-life in soil, at 22°C in tropical Wahiawa soil in closed system
Octamethylcyclotetrasiloxane (impurity)	0.04 days Half-life in soil, at 22 °C in tropical Wahiawa soil in closed system.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Cyclopentasiloxane, decamethyl-	5.2
Cyclotetrasiloxane, octamethyl-	5.1 6.49 (25.1 °C)
Decamethylcyclopentasiloxane	8.02 (25.3 °C)
Octamethylcyclotetrasiloxane (impurity)	5.1 6.49 (25.1 °C)

Biomagnification factor

Cyclotetrasiloxane, octamethyl-	0.47, lipid-normalized steady-state Species: Carp (Cyprinus carpio)
Octamethylcyclotetrasiloxane (impurity)	0.47, lipid-normalized steady-state Species: Carp (Cyprinus carpio)

Bioconcentration factor (BCF)

Cyclotetrasiloxane, octamethyl-	12400 Species: Fathead minnow (Pimephales promelas)
Decamethylcyclopentasiloxane	16200 lipid-normalized, kinetic Species: Pimephales promelas
Octamethylcyclotetrasiloxane (impurity)	12400 Species: Fathead minnow (Pimephales promelas)

Mobility in soil

Adsorption

Soil/sediment sorption - log Kd

Decamethylcyclopentasiloxane	5.34, average

Soil/sediment sorption - log Koc

Cyclotetrasiloxane, octamethyl-	4.22, average
Decamethylcyclopentasiloxane	5.17, average
Octamethylcyclotetrasiloxane (impurity)	4.22, average

Desorption

Soil/sediment desorption - log Kd

Cyclotetrasiloxane, octamethyl-	4.3, average
Octamethylcyclotetrasiloxane (impurity)	4.3, average

Mobility in general

Volatility

Henry's law

Cyclotetrasiloxane, octamethyl-	Log Kaw = 2.69, indicating high potential of volatilization from water.
Decamethylcyclopentasiloxane	3.13, indicating high potential of volatilization from water.
Octamethylcyclotetrasiloxane (impurity)	Log Kaw = 2.69, indicating high potential of volatilization from water.

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 All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

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

Cyclotetrasiloxane, octamethyl- (CAS 556-67-2)	1.0 % One-Time Export Notification only.
Octamethylcyclotetrasiloxane (impurity) (CAS 556-67-2)	1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

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

Cyclopentasiloxane, decamethyl- (CAS 541-02-6)
Cyclotetrasiloxane, octamethyl- (CAS 556-67-2)
Decamethylcyclopentasiloxane (CAS 541-02-6)
Octamethylcyclotetrasiloxane (impurity) (CAS 556-67-2)

California Proposition 65

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.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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 03-14-2024

Version #	01
HMIS® ratings	Health: 0 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 0 Flammability: 0 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: Alternate Trade Names Handling and storage: Precautions for safe handling Other information, including date of preparation or last revision: References Other information, including date of preparation or last revision: Disclaimer