SAFETY DATA SHEET

1. Identification

Product identifier **MR-COAT-02F**

Other means of identification

Sales Code GYXSS5

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 2
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
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 skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Very toxic to aquatic life. Very 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. Avoid breathing dust / fume/gas/mist /vapors/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. 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): Remove/take off immediately all contaminated clothing. Rinse skin with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician 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. Collect spillage. Take off contaminated clothing and wash it before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed. 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: Ethanol
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Petroleum naphtha(Contains Heptane, Octane and Nonane)		64742-48-9	20 - 30
Tetraethoxysilane		78-10-4	3 - 10
Alkoxysilane		919-30-2	1 - 3

Decomposition

Chemical name	Common name and synonyms	CAS number	%
Ethanol		64-17-5	

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
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 if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Take off all contaminated clothing immediately. 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	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. Water runoff can cause environmental damage.

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. Vapors may form explosive mixtures with air. Provide adequate ventilation.
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. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.
Use care in handling/storage. Do not breathe mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. 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. 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
Octane (CAS 111-65-9)	PEL	2350 mg/m3 500 ppm
Petroleum naphtha(Contains Heptane, Octane and Nonane) (CAS 64742-48-9)	PEL	400 mg/m3 100 ppm
Tetraethoxysilane (CAS 78-10-4)	PEL	850 mg/m3 100 ppm

Decomposition	Type	Value
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3 1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Nonane (CAS 111-84-2)	TWA	200 ppm
Octane (CAS 111-65-9)	TWA	300 ppm
Tetraethoxysilane (CAS 78-10-4)	TWA	10 ppm

Decomposition	Type	Value
Ethanol (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Nonane (CAS 111-84-2)	TWA	1050 mg/m3 200 ppm
Octane (CAS 111-65-9)	Ceiling	1800 mg/m3 385 ppm
	TWA	350 mg/m3 75 ppm
Petroleum naphtha(Contains Heptane, Octane and Nonane) (CAS 64742-48-9)	TWA	400 mg/m3 100 ppm
Tetraethoxysilane (CAS 78-10-4)	TWA	85 mg/m3 10 ppm

Decomposition	Type	Value
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3 1000 ppm

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

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. 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 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 eyes. Avoid contact with skin. 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 Colorless.

Odor Solvent.

Odor threshold Not available.

pH Not measurable (Refer to water solubility)

Melting point/freezing point No data

Initial boiling point and boiling range 239 - 284 °F (115 - 140 °C) [Petroleum naphtha]

Flash point 44.6 °F (7 °C) Closed Cup

Evaporation rate < 1 (Butyl Acetate=1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 0.9 [Petroleum naphtha]

Flammability limit - upper (%) 6.0 [Petroleum naphtha]

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 2 kPa (20 °C) [Petroleum naphtha]

Vapor density	4.1 (air=1) [Petroleum naphtha]
Relative density	1.06 (23 °C)
Solubility(ies)	
Solubility (water)	Not soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	300 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	Water, moisture. Strong oxidizing agents.
Hazardous decomposition products	This product reacts with water, moisture or humid air to evolve following compounds: Ethanol 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	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

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
Nonane (CAS 111-84-2)		
Acute		
Inhalation		
Vapor		
LC50	Rat	3200 ppm, 4 hours

Components	Species	Test Results
Tetraethoxysilane (CAS 78-10-4)		
Acute		
Inhalation		
LC50	Rat	10 mg/l, 4 h OECD403
Oral		
LD50	Rat	> 2500 mg/kg OECD423

Decomposition	Species	Test Results
Ethanol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Mouse	39 mg/l, 4 Hours
	Rat	20000 ppm, 10 Hours
Oral		
LD50	Guinea pig	5.6 g/kg
	Mouse	3450 mg/kg
	Rat	6.2 g/kg

Skin corrosion/irritation Causes skin irritation. [Octane] [Nonane]
SKIN-RABBIT : 5mg/24Hr SEVERE [Alkoxysilane]

Serious eye damage/eye irritation Causes serious eye irritation. [Tetraethoxysilane] [Ethanol]
EYE-RABBIT : 0.75mg/24Hr SEVERE [Alkoxysilane]

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization May cause an allergic skin reaction. [Alkoxysilane]

Germ cell mutagenicity Negative(Ames Test) [Alkoxysilane (B)]

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

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.

Specific target organ toxicity - single exposure May cause damage to the following organs.
Narcotic effects. [Octane]
Narcotic effects. [Nonane]
Respiratory tract irritation. [Tetraethoxysilane]

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard May be fatal if swallowed and enters airways. [Petroleum naphtha]
[Octane] [Nonane]

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

12. Ecological information

Ecotoxicity Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
[Octane] [Nonane]

Components		Species	Test Results
Alkoxysilane (CAS 919-30-2)			
Aquatic			
Fish	LC50	Oryzias latipes	> 1000 mg/l, 48 hr

Components		Species	Test Results
Octane (CAS 111-65-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.18 mg/l, 48 hours
Petroleum naphtha(Contains Heptane, Octane and Nonane) (CAS 64742-48-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 5.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours

Decomposition		Species	Test Results
Ethanol (CAS 64-17-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	7.7 - 11.2 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. [Tetraethoxysilane] [Alkoxysilane]

Bioaccumulative potential Not 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.

14. Transport information

DOT

UN number UN1866

UN proper shipping name Resin solution, flammable, MARINE POLLUTANT (X-31-2850)

Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

Packing group II

Environmental hazards

Marine pollutant YES

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions 149, B52, IB2, T4, TP1, TP8

Packaging exceptions 150

Packaging non bulk 173

Packaging bulk 242

IATA

UN number UN1866

UN proper shipping name Resin solution flammable

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group II

Environmental hazards YES

ERG Code 3L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN1866

UN proper shipping name	RESIN SOLUTION flammable
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
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. DOT 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.

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

Nonane (CAS 111-84-2)	1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

Nonane (CAS 111-84-2)	Listed.
Octane (CAS 111-65-9)	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. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Petroleum naphtha(Contains Heptane, Octane and Nonane) (CAS 64742-48-9)

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)	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)	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 01-07-2021

Revision date 07-08-2021

Version # 02

HMIS® ratings

Health: 2
Flammability: 3
Physical hazard: 0

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

This document has undergone significant changes and should be reviewed in its entirety.