1. Identification

Product Identifier:	Product No. 990 Forever-Coat High Solids Silicone Roof Coating
Use:	Polysiloxane coating.
Supplier:	Tucson Rubberized Coatings Inc.
	6351 S Tucson Blvd.
	Tucson, AZ 85706
Supplier Phone:	(520 293-7000

2. Hazards Identification

GHS Hazard Classification:
Acute Toxicity – Category 4
Flammable Liquid – Category 4
Single Target Organ Toxicity (STOT) Repeated Exposure – Category 2
Skin Corrosion – Category 2
Skin Sensitizer – Category 1

GHS Hazard Symbols:



GHS Signal Word: Warning

GHS Hazard Statements:
H302 – Harmful if swallowed.
H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H227 – Combustible liquid
H373 – May cause damage to organs through prolonged or repeated exposure. Affected organs: cardiovascular/hematological (hematopoiesis).

GHS Precautionary Statements:

Prevention:
P260 – Do not breathe fumes/mist/vapour/spray.
P262 – Do not get in eyes, on skin, or on clothing.
P270 – Do not eat, drink or smoke when using this product.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection P303

Response:
+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 – IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310+314 – Immediately call a Poison Control Center/doctor and get medical advice/attention if you feel unwell.

Storage:
P403+P233+P235 – Store in a well ventilated place. Keep container tightly closed. Keep cool.

Disposal: P501 – Dispose of contents/containers to waste in accordance with local/regional/national/international regulations.

Other Hazards which do not result in GHS classification: Not applicable.

3. Composition / Information on Ingredients

Chemical Name	Common or Other Name	CAS Number	Percent by Weight
Silica, crystalline, quartz	Quartz	14808-60-7	5 - 25
Titanium dioxide	Titanium dioxide	13463-67-7	2 - 9
N-[bis[(butan-2-ylideneamino)oxy] methylsilyl]oxybutan-2-imine	Butan-2-one-O,O',O"-(methylsilylidyne)trioxime	22984-54-9	1 – 5
3-triethoxysilylpropan-1-amine	3-triethoxysilylpropan-1-amine; amino alkyl silane	919-30-2	1 – 5
Other Ingredients			56.0 – 91.0

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentration applicable, are classification as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. First Aid Information

IF POISONING IS SUSPECTED, immediately contact the poison control center, doctor or nearest hospital. Have the product container, label or Safety Data Sheet with you when calling Tucson Rubberized Coatings Inc., a poison control center or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

Inhalation: The affected person should be moved to fresh air and made comfortable. Obtain medical attention as a precaution.

Eye Contact: Do not attempt to remove solids or gums from the eye. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, holding the eyelids open. After 5 minutes, remove contact lenses if present and possible, and continue rinsing. Obtain medical attention immediately.

Skin Contact: Remove contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap. If symptoms persist, obtain medical attention. Contaminated clothing should be laundered before re-use.

Ingestion: Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim rinse out mouth and drink 8 to 10 oz. (240 to 300 ml) of water or milk to dilute the material in stomach. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Repeat the administration of water/milk. Obtain medical attention immediately.

Most Important Symptoms/Effects:

At high vapour concentrations, curing by-product has a narcotic action with reversible effects. Prolonged exposure to curing by-product vapours can cause headache, nausea, central nervous system depression, anesthesia and dizziness.

Eye contact: Moderate irritation. Can cause burns.

Dermal contact: Mild irritation; may cause transient reddening of the skin.

Ingestion: Very low toxicity. May cause irritation and obstruction of the gastro-intestinal tract.

Indication of Immediate Medical Attention and Special Treatment Needed:

There is no specific antidote if ingested.

Treat symptomatically.

5. Fire Fighting Measures

Suitable Extinguishing Media:

Dry chemical, CO_2, water spray, chemical foam.

Unsuitable Extinguishing Media:

Do not use water jet as an extinguisher as this may spread the fire.

Specific Hazards:

Hazardous combustion products: carbon dioxide, carbon monoxide, formaldehyde, silicon dioxide, nitrogen oxide.

Special Protective Equipment and Precautions for Firefighters:

Self-Contained Breathing Apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. Full protective clothing should be worn at all times.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Make sure all personnel involved in the clean-up follow good industrial hygiene practices. A small spill can be handled routinely. Use adequate ventilation and equipment, and wear protective clothing as detailed in Section 8 Exposure Controls / Personal Protection and/or the product label.

Methods and Materials for Containment and Cleaning Up:

Restrict access to area of spill. Provide ventilation and protective clothing as required for the situation. Cover with dry lime or soda ash. Scrape up liquid coating with cardboard or rag and place in a closed container.

Environmental Precautions:

Review local, regional and/or national regulations for disposal. Silicone wastes can often be incinerated in approved facilities. Solid waste can often be sent to designated landfill sites.

7. Handling and Storage

Precautions for Safe Handling:

KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing vapours. Wear full protective clothing and equipment as detailed in Section 8 Exposure Controls / Personal Protection. After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry.

Conditions for Safe Storage, Including any Incompatibilities:

Store in cool dry conditions. Keep container tightly sealed when not in use. Protect product and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people. Clean up spilled material immediately.

8. Exposure Controls / Personal Protection

Control Parameters:

Chemical Name	OSHA PEL	ACGIH TLV	Other	NTP/IARC/ OSHA Carcinogen	Canada TLV
Silica, crystalline, quartz*	10/(%silica+2) respirable dust.	0.0025mg/m^3	Not established	IARC Group 1 carcinogen.	Ontario 0.1 mg/m^3 (respirable fraction); Quebec 0.1 mg/m^3
Titanium dioxide*	15 mg/m^3 8 hr TWA, Total dust	10 mg/m^3	5 mg/m^3 AEL DuPont, 8 & 12 hr respirable dust	IARC Group 2B carcinogen.	10 mg/m^3
N-[bis[(butan-2-ylideneamino) oxy]methylsilyl]oxybutan-2-imine	Not established.	Not established.	Not established.	Not established.	Not established.
3-triethoxysilylpropan-1-amine	Not established.	Not established.	Not established.	Not established.	Not established.
Methyl Ethyl Ketoxime (MEKO)**	Not established.	Not established.	3 ppm TWA; 10 ppm STEL; 10 ppm workplace environmental exposure level (AIHA)	Not established.	Not established.

REL = recommended exposure limit; STEL = short-term exposure limit; TLV = threshold limit value; TWA = time weighted average

* Components are bound in the formulation and are not an exposure concern in the mixture or cured product.

** Methyl Ethyl Ketoxime (MEKO) is a curing by-product that is released when the coating comes in contact with humid air. It is recommended to keep workplace exposure levels below 3 ppm.

Appropriate Engineering Controls:

If necessary, ensure work areas have adequate ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Provide separate washing/shower and eating facilities.

Individual Protection Measures:

General: Avoid breathing dusts, vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling, and before eating, drinking, applying cosmetics or handling tobacco.

Eye/Face Protection: Safety glasses / chemical splash goggles.

Skin Protection: Impervious gloves, coveralls and/or aprons may be useful to prevent contamination of skin and clothing. Choose gloves to protect hands against chemicals depending on the concentration specific to the place of work. Breakthrough time is not determined for the product. Change gloves often. We recommend clarifying the resistance of chemicals to protective gloves with the glove manufacturer. Wash hands before breaks and at the end of the workday.

Respiratory Protection: General and local exhaust ventilation is recommended to maintain vapour exposures below the recommended limits. Where concentrations are unknown or are above the recommended limits, a NIOSH/MSHA approved respirator with an organic vapour cartridge should be used. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any

potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

9. Physical and Chemical Properties

Appearance: Smooth, viscous liquid.

Odour: Almost odourless.

Odour Threshold: Not available.

pH: Not available.

Melting Point: Not applicable.

Freezing Point: Not applicable.

Initial Boiling Point: Not available.

Boiling Point Range: Not available.

Flash Point: 74 °C (165 °F) PMC, ASTM D-93

Evaporation Rate: Not applicable.

Flammability: Not applicable.

Upper/Lower Flammability Limits: Not applicable.

Vapour Pressure: Negligible at 25 °C (77 °F).

Vapour Density: Not applicable.

Relative Density: 1.32

Solubility(ies): Water – insoluble. Soluble in most organic solvents.

Partition Coefficient (n-octanol/water): x

Auto-Ignition Temperature: Not applicable.

Decomposition Temperature: Not available.

Viscosity: 4,000 cP

Explosive Properties: Not applicable.

Oxidizing Properties: Not applicable.

VOC Content: 48.7 g/L (0.406 lb/US gallon)

10. Stability and Reactivity

Reactivity:

Not reactive under normal use and storage conditions.

Stability:

Stable under normal use and storage conditions.

Possibility of Hazardous Reactions:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Conditions to Avoid:

Temperatures above the flash point.

Incompatible Materials:

Strong oxidizers. Concentrated acids or bases cause degradation of polymer. Boiling water may soften and weaken material.

Hazardous Decomposition Products:

Combustion will produce carbon dioxide, carbon monoxide, silicon dioxide and nitrogen oxides. A component of this product can generate formaldehyde at approximately 150 °C (300 °F) and above in the atmosphere containing oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential carcinogen.

11. Toxicological Information

Relevant routes of exposure:

	Acute Effects	Chronic Effects
Inhalation	Not normally an inhalation hazard. At high vapour concentrations, curing by-product has a narcotic action with reversible effects.	Prolonged exposure to high vapour concentrations of curing by-product can cause headache, nausea, central nervous system depression, anesthesia and dizziness.
Ingestion	Very low toxicity. May cause irritation and obstruction to gastro-intestinal tract.	Effects unknown.
Skin Contact	Mild irritation; may cause transient reddening of the skin.	Effects unknown.
Eye Contact	Moderate irritation. Can cause burns.	Effects unknown.
Other	No data available.	No data available.

Acute Toxicity:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	LD50 oral, rat >5,000 mg/kg; LD50 dermal, rabbit >10,000 mg/kg.	LD50, oral, rat, >5,000 mg/kg.	No data available.

Skin Irritation:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
Mild irritation; may cause transient reddening of the skin.	May cause mild irritation.	Slight or no skin irritation in rabbit.	Sensitization possible. Irritates the skin.	Irritant for skin and mucous membranes.

Eye Irritation:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
Moderate irritation. Can cause burns.	May cause eye irritation.	Slight or no eye irritation in rabbit.	Irritates the eyes.	Irritant effect.

Mutagenicity:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No adverse effects anticipated.	No evidence of mutagenic effects.	No genetic damage in animals and bacteria.	No data available.	No data available.

Carcinogenicity:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No adverse effects anticipated.	IARC Group 1 carcinogen (inhalation).	IARC Group 2B carcinogen (inhalation).	No data available.	No data available.

NOTE: Silicon, crystalline, quartz and titanium dioxide are fully bound in the product formulation and is not an inhalation hazard in either the mixture or cured product.

Reproductive Toxicity:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No evidence of reproductive effects.	Animal testing showed no reproductive toxicity.	No data available.	No data available.

Teratogenicity:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No adverse effects anticipated.	No evidence of teratogenic effects	Animal testing showed no developmental toxicity.	No data available.	No data available.

Specific Target Organ Toxicity (STOT) – Single Exposure:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	No data available.	No data available.	No data available.

Specific Target Organ Toxicity (STOT) – Repeated Exposure:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	No toxicologically significant effects were found.	May cause damage to organs through prolonged or repeated exposure. Affected organs: cardiovascular/ hematological (hematopoiesis).	No data available.

NOTE: Silicon, crystalline, quartz and titanium dioxide are fully bound in the product formulation and is not an inhalation hazard in either the mixture or cured product.

Aspiration Hazard:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	No data available.	No data available.	No data available.

Chronic Toxicity:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
Potential for pulmonary edema, dermatitis.	IARC has classified crystalline silica as carcinogenic to humans. Long term exposure to products containing crystalline silica may cause silicosis, irritation of the nose, throat or respiratory tract.	No data available.	No data available.	No data available.

NOTE: Silica, crystalline, quartz and titanium dioxide are fully bound in the product formulation and is not an inhalation hazard in either the mixture or cured product.

NOTE: Curing by-product, methylethylketoxime (MEKO); male rats and mice exposed to MEKO throughout their lifetime developed liver tumours. Many commonly used chemicals cause liver tumours in rats and mice. The relevance to humans is unknown.

12. Ecological Information

Ecotoxicity - Acute:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	Unlikely to be harmful.	LC50, 96h, Pimephales promelas (fathead minnow), >1,000 mg/L; EC50, 72h, Pseudokirchnerielle subcapitata (green algae), >1,000 mg/L.	No data available.	No data available.

Ecotoxicity - Chronic:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	Unlikely to be harmful.	No data available.	No data available.	No data available.

Persistence and Degradability:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	Does not degrade.	No data available.	No data available.

Bioaccumulative Potential:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	Does not bioaccumulate.	No data available.	No data available.

Mobility in Soil:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	No data available.	No data available.	No data available.

Other Adverse Effects:

Product	Silica, crystalline, quartz	Titanium dioxide	N-[bis[(butan-2-ylideneamino)oxy]methylsilyl] oxybutan-2-imine	3-triethoxysilyl propan-1-amine
No data available.	No data available.	No data available.	No data available.	No data available.

13. Disposal Considerations

Disposal Methods:

Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

14. Transport Information

Transport Information

	Land Transport (TDG/ USDOT)	Sea Transport (AND/MDG)	Air Transport (IATA-DGR)
This material is not subject to transport regulations.			
UN Number			
UN Proper Shipping Name			
Transport Hazard Class			
Packing Group			
Environmental Hazards			

Special Precautions for User:
Not applicable.
Transport in Bulk According to Annex II of Marpol 73/78 and the IBC Code:
Not available.

15. Regulatory Information

Canadian Federal Regulations

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR), and the MSDS contains all the information required by the HPR.

DSL Inventory:

All chemical substances in this material are included in or exempted from the DSL.

US Federal Regulations

TSCA Inventory:

All chemical substances in this material are included in or exempted from the TSCA.

CERCLA Reportable Quantity:

None present on none present in regulated quantities.

SARA 304 Extremely Hazardous Substances Reportable Quantity:

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazard Categories:

Not applicable.

SARA 302 Extremely Hazardous Substance:

No chemicals in this material are subject to reporting requirements of SARA Title III, Section 302

SARA 313 Emergency Release Notification:

This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

US State Regulations

U.S. California Proposition 65

No ingredient regulated by CA Prop 65 as per list issued on May 25th, 2018 present.

U.S. New Jersey Worker and Community Right-to-Know Act

Silica, crystalline, quartz 5 – 25%

Titanium dioxide 2 – 9%

Note: both components are fully bound in the product formulation and are not an inhalation hazard in either the mixture or cured product.

U.S. Massachusetts Right-to-Know Act– Substance List

Silica, crystalline, quartz 5 – 25%

Titanium dioxide 2 – 9%

Note: both components are fully bound in the product formulation and are not an inhalation hazard in either the mixture or cured product.

U.S. Pennsylvania Right-to-Know Act – Hazardous Substances

No ingredient regulated by PA Right-to-know Law present.

U.S. Rhode Island Right-Know Act

No ingredient regulated by RI Right-to-Know law present.

Other Regulations

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

The ingredients of this product are reported in the following inventories:

AICS (Australia)	On or in compliance with the inventory.
DSL (Canada)	On or in compliance with the inventory.
ENCS/ISHL (Japan)	On or in compliance with the inventory.
IECSC (China)	On or in compliance with the inventory.

KECI (Korea)	On or in compliance with the inventory.
NZIoC (New Zealand)	On or in compliance with the inventory.
PICCS (Philippines)	On or in compliance with the inventory.
REACH (European Union)	On or in compliance with the Inventory.
TSCA (USA)	On or in compliance with the inventory.

National Fire Protection Association (NFPA)



16. Other Information

Issue Date (D/M/Y):	09/05/2023
Replaces (D/M/Y):	23/06/2022

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information provided is designed only as guidance for safe handling, use, processing, storage, transportation, and release and is not considered a warranty or product specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

It is the responsibility of persons in receipt of this product Safety Data Sheet (SDS) to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product.

All information and instructions provided in this Safety Data Sheet are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. Tucson Rubberized Coatings shall not be held responsible for any defect in the product covered by this SDS, should the existence of such defect not be detectable considering the current state of scientific and technical knowledge.

This Safety Data Sheet has been prepared in compliance with applicable Canadian and United States law. If you purchase this material outside Canada or the United States, where compliance laws may differ, you should receive from your local Tucson Rubberized Coatings supplier a SDS applicable to the country in which the product is sold or intended to be used. Please note that the appearance and contents of the SDS may vary, even for the same product, between different countries, reflecting the compliance requirements.