

FORTICOAT SILICONE F1

SAFETY DATA SHEET

1. Identification

Product identifier: Forticoat Silicone F1

Other means of identification

Synonyms: Mastic Coating

Recommended use and restriction on use

Recommended use: Protection of construction materials

Restrictions on use: For industrial use only.

Manufacturer/Importer/Distributor Information : FortiSystems
16601 Central Green Blvd.
Ste. 100
Houston, TX 77032

Contact person : inquiries@forti-systems.com

Telephone : General information
+1-833-840-2777

Emergency telephone number

Supplier : CHEMTREC
1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 0

Health Hazards

Carcinogenicity Category 1A

Toxic to reproduction Category 2

Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	0 %
Acute toxicity, inhalation, vapor	0 %
Acute toxicity, inhalation, dust or mist	0 %

FORTICOAT SILICONE F1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: F150; May cause cancer.
F161; Suspected of damaging fertility or the unborn child.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: IF exposed or concerned: Get medical advice/attention. In case of fire: Use dry chemical powder for extinction.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification:

Substance(s) formed under the conditions of use: Generates methanol during cure.

3. Composition/information on ingredients

FORTICOAT SILICONE F1

Mixtures

Chemical Identity	CAS number	Content in percent (%)*	Notes
(1) Calcium Carbonate	471-34-1	20 - <50%	# This substance has workplace exposure limit(s).
Titanium, Bis(ethyl acetoacetato)-diisopropoxy	27858-32-8	1 - <5%	No data available.
Octadecanoic acid	57-11-4	1 - <5%	# This substance has workplace exposure limit(s).
(1) QUARTZ	14808-60-7	0.1 - <1%	# This substance has workplace exposure limit(s).
Octamethylcyclotetrasiloxane	556-67-2	0.1 - <1%	No data available.

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	No action shall be taken involving any personal risk or without suitable training.
Ingestion:	If swallowed, do NOT induce vomiting. Give a glass of water.
Inhalation:	If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.
Skin Contact:	Wash contaminated clothing before reuse. In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
Eye contact:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Most important symptoms/effects, acute and delayed	
Symptoms:	No data available.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

FORTICOAT SILICONE F1

Treatment: Treatment is symptomatic and supportive. This product reacts with moisture in the acid contents of the stomach to form methanol.

5. Fire-fighting measures

General Fire Hazards: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use standard firefighting procedures and consider the hazards of other involved materials.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray Carbon dioxide Foam.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: In case of fire, carbon monoxide and carbon dioxide may be formed. Acute overexposure to the products of combustion may result in irritation of the respiratory tract. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: When using do not smoke. Do not empty into drains.

Special protective equipment for fire-fighters:

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Product releases methanol during application and curing. Avoid contact with eyes, skin, and clothing. Use only in well-ventilated areas. Avoid inhalation of vapors and spray mists. Keep container closed. Keep out of reach of children. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Wear proper protective equipment as specified in the protective equipment section. Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal. Warn other workers of spill. Keep unauthorized personnel away.

FORTICOAT SILICONE F1

Notification Procedures: Caution: Contaminated surfaces may be slippery. See Section 8 of the SDS for Personal Protective Equipment.

Environmental Precautions: Do not allow runoff to sewer, waterway or ground.

7. Handling and storage

Precautions for safe handling:

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Recommended storage in original container below 30°C (85°F).

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
(1) Calcium Carbonate - Total	REL	10 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
(1) Calcium Carbonate - Respirable.	REL	5 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
(1) Calcium Carbonate - Total dust.	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
(1) Calcium Carbonate - Respirable fraction.	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
(1) Calcium Carbonate - Total dust.	TWA	15 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
(1) Calcium Carbonate - Respirable fraction.	TWA	5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Octadecanoic acid	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values (03 2015)
(1) QUARTZ - Respirable fraction.	TWA	0.025 mg/m ³	US. ACGIH Threshold Limit Values (03 2015)
(1) QUARTZ - Respirable dust.	REL	0.05 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	0.1 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
(1) QUARTZ - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
(1) QUARTZ	PEL	0.05 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
Octamethylcyclotetrasiloxane	TWA	5 ppm	

Appropriate Engineering Controls Eye wash facilities and emergency shower must be available when handling this product.

FORTICOAT SILICONE F1

Individual protection measures, such as personal protective equipment

General information:	Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.
Eye/face protection:	Monogoggles
Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Wear rubber apron. Wear suitable protective clothing and eye/face protection.
Respiratory Protection:	If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Various
Odor:	Alcohol
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	No data available.
Flash Point:	Not Applicable
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.

FORTICOAT SILICONE F1

Explosive limit - lower (%):	No data available.
Heat of combustion:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	No data available.
Relative density:	1.30
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
VOC:	24 g/l ;

10. Stability and reactivity

Reactivity:	No dangerous reaction if used as recommended.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.
Conditions to avoid:	None known.
Incompatible Materials:	None known.
Hazardous Decomposition Products:	Carbon oxides Oxides of silicon. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	No data available.
Inhalation:	No data available.

FORTICOAT SILICONE F1

Skin Contact: No data available.

Eye contact: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Octadecanoic acid LD 50 (Rat, No data available.): > 2,000 mg/kg

Octamethylcyclotetrasiloxane LD 50 (Rat): 4,800 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Octamethylcyclotetrasiloxane LD 50 (Rat): > 2,400 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Octamethylcyclotetrasiloxane LC50 (Rat): 36 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

FORTICOAT SILICONE F1

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

(1) QUARTZ Overall evaluation: 1. Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

(1) QUARTZ Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane
Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic)
Mouse Lymphoma Assay (OECD Guideline 476): negative (not mutagenic)

In vivo

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane
Chromosomal aberration (OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)) Inhalation (Rat, male and female): negative

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

FORTICOAT SILICONE F1

Product: No data available.

Other effects: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/kg/day, 14 days), developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. This response in rats, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation), with D4. Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level--a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. Therefore, this observed effect does not indicate a potential health hazard to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

FORTICOAT SILICONE F1

Fish

Product: No data available.

Specified substance(s):

Octadecanoic acid LC0 (Brachydanio rerio, 96 h): > 100 mg/l
LC0 (Leuciscus idus, 96 h): > 100 mg/l

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Octadecanoic acid LC0 (Brachydanio rerio, 4 d): > 100 mg/l
LC0 (Leuciscus idus, 4 d): > 100 mg/l

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane 3.7 % (29 d, 310 Ready Biodegradability - CO₂ in Sealed Vessels (Headspace Test)) Not readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane Fathead Minnow, Bioconcentration Factor (BCF): 12.40

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

FORTICOAT SILICONE F1

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

(1) Calcium Carbonate	No data available.
Titanium, Bis(ethyl acetoacetato)-diisopropoxy	No data available.
Octadecanoic acid	No data available.
(1) QUARTZ	No data available.
Octamethylcyclotetrasiloxane	No data available.

Other adverse effects: No data available.

13. Disposal considerations

General information: The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground. See Section 8 for information on appropriate personal protective equipment.

Disposal instructions: Disposal should be made in accordance with federal, state and local regulations.

Contaminated Packaging: Dispose of as unused product.

14. Transport information

DOT

UN Number:	None
UN Proper Shipping Name:	None
Transport Hazard Class(es)	
Class:	None
Label(s):	NONE
Packing Group:	None
Marine Pollutant:	No

IMDG

Not regulated.

IATA

Not regulated.

FORTICOAT SILICONE F1

Special precautions for user:

15. Regulatory information

US Federal Regulations

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

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
(1) Calcium Carbonate	10000 lbs
Titanium, Bis(ethyl acetoacetato)-diisopropoxy	10000 lbs
Octadecanoic acid	10000 lbs
(1) QUARTZ	10000 lbs
Octamethylcyclotetrasiloxane	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

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

None present or none present in regulated quantities.

US State Regulations

FORTICOAT SILICONE F1**US. California Proposition 65**

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

(1) TITANIUM DIOXIDE	Carcinogenic.
(1) QUARTZ	Carcinogenic.
Methanol	Maximum Allowable Dose Level (MADL): 47000 µg/day. Developmental toxin.

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

Siloxanes and Silicones, di-Me hydroxy terminated

(1) Calcium Carbonate

Decamethylcyclopentasiloxane

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl) -, reaction products with ammonia, octamethylcyclotetrasiloxane and silica

Methyltrimethoxysilane

(1) TITANIUM DIOXIDE

(1) QUARTZ

Octamethylcyclotetrasiloxane

US. Massachusetts RTK - Substance List**Chemical Identity**

(1) Calcium Carbonate

(1) QUARTZ

US. Pennsylvania RTK - Hazardous Substances**Chemical Identity**

(1) Calcium Carbonate

US. Rhode Island RTK

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

FORTICOAT SILICONE F1

Inventory Status:

Australia AICS:	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	Not in compliance with the inventory.	Remarks: None.
EINECS, ELINCS or NLP:	On or in compliance with the inventory	Remarks: None.
Japan (ENCS) List:	Not in compliance with the inventory.	Remarks: None.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.	Remarks: None.
Canada NDSL Inventory:	Not in compliance with the inventory.	Remarks: None.
Philippines PICCS:	Not in compliance with the inventory.	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: None.
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.	Remarks: None.
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory.	Remarks: None.

16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	0
Flammability		0
Physical Hazards		1
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 09/19/2017

Revision Date: No data available.

Version #: 1.0

Further Information: No data available.

FORTICOAT SILICONE F1

Further Information

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality 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.