

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Thermosil 4000 Part A

1.2. Recommended use and restrictions on use

Recommended use : Damping and Potting Compound/Sealant
Restrictions on use : All other uses not recommended above

1.3. Supplier

FMI Chemical, Inc.
4 Northwood Drive
Bloomfield, CT 06002
United States
T 860-243-3222

1.4. Emergency telephone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 201349
Back-up Emergency Number: 703-741-5970 (D.C, USA)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Reproductive toxicity Category 1B : May damage fertility or the unborn child
Hazardous to the aquatic environment – Chronic Hazard Category 3 : Harmful to aquatic life with long lasting effects
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
Hazard statements (GHS US) : May damage fertility or the unborn child
Harmful to aquatic life with long lasting effects
Precautionary statements (GHS US) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Wear protective clothing, eye protection, face protection, protective gloves.
If exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : When encapsulated in polymer: silica is/are not expected to pose a health hazard when processed under normal conditions of use.

2.4. Unknown acute toxicity (GHS US)

99.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
99.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
99.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Hydrolysis products of 1,1,1-trimethyl-n-trimethylsilyl silanamine with silica	CAS-No.: 68909-20-6	20 – 35	STOT RE 2, H373
Quartz	CAS-No.: 14808-60-7	10 – 20	Carc. 1A, H350
1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane	CAS-No.: 2554-06-5	< 1	Flam. Liq. 4, H227 Repr. 1B, H360 Aquatic Chronic 1, H410

Comments : When encapsulated in polymer: silica is/are not expected to pose a health hazard when processed under normal conditions of use.

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Give artificial respiration if necessary. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : None under normal use.
Symptoms/effects after skin contact : Slight irritation.
Symptoms/effects after eye contact : May cause slight irritation.
Symptoms/effects after ingestion : Abdominal pain, nausea.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Vapors may cause fire/explosion if source of ignition is present.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Thermal decomposition generates : Carbon dioxide. Carbon monoxide. Silicon oxides. Formaldehyde.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all personal contact including breathing in the mist, spray, vapors, gas. Do not take actions involving personal risks.

6.1.1. For non-emergency personnel

Protective equipment : Wear the recommended personal protective equipment.
Emergency procedures : Evacuate the danger area. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, remove ignition sources, ventilate area. Prevent other non-emergency personnel from entering the danger area.

6.1.2. For emergency responders

Protective equipment : Wear the recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate personnel to a safe area. Ventilate spillage area.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain with non-combustible inert absorbent.
Methods for cleaning up : Take up liquid spill into absorbent material. Decontaminate surfaces and equipment with water and detergent. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wear personal protective equipment. Do not breathe mist, spray, vapors, gas. Avoid contact with skin and eyes. Do not subject to grinding, shock, friction. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store at room temperature. Store locked up. Keep only in original container. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Quartz (14808-60-7)

USA - ACGIH - Occupational Exposure Limits

Local name	Silica crystalline - quartz
ACGIH OEL TWA	0.025 mg/m ³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2023

USA - OSHA - Occupational Exposure Limits

Local name	Quartz (Total Dust) (Silica: Crystalline)
Remark (OSHA)	Table Z-3. For OSHA PEL (TWA) use formula: (30 mg/m ³ / (%SiO ₂ +2)) for mg/m ³ . CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

Hydrolysis products of 1,1,1-trimethyl-n-trimethylsilyl silanamine with silica (68909-20-6)

No additional information available

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Use general ventilation, local exhaust ventilation or process enclosure to keep the airborne concentrations below the permissible exposure limits. Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment. Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment.

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Hand protection:
Protective gloves
Eye protection:
Chemical goggles or safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
No respiratory protection needed under normal use conditions

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid.
Appearance	: Paste.
Color	: Beige
Odor	: Mild odor
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 110 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 1.26
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 1000000 cP 23 °C/ 73.4 °F
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : Carbon dioxide. Carbon monoxide. Formaldehyde. Silicon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

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Unknown acute toxicity (GHS US)	99.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 99.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 99.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
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1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

LD50 oral rat	> 15000 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg body weight
LC50 Inhalation - Rat	> 1.32 mg/l air

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified.

Quartz (14808-60-7)

IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : May damage fertility or the unborn child.

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1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

NOAEL (animal/male, F0/P)	≥ 400 mg/kg body weight
NOAEL (animal/female, F0/P)	150 mg/kg body weight
NOAEL (animal/male, F1)	150 mg/kg body weight
NOAEL (animal/female, F1)	150 mg/kg body weight
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified.

Hydrolysis products of 1,1,1-trimethyl-n-trimethylsilyl silanamine with silica (68909-20-6)

STOT-repeated exposure	May cause damage to organs (lungs) through prolonged or repeated exposure (Inhalation).
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Viscosity, kinematic	6.3 mm ² /s
Symptoms/effects after inhalation	: None under normal use.
Symptoms/effects after skin contact	: Slight irritation.
Symptoms/effects after eye contact	: May cause slight irritation.
Symptoms/effects after ingestion	: Abdominal pain, nausea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

LC50 - Fish [1]	> 1000 mg/l
NOEC chronic fish	≥ 0.036 mg/l

12.2. Persistence and degradability

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Not rapidly degradable

12.3. Bioaccumulative potential

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Partition coefficient n-octanol/water (Log Pow)	6.47 (≥ 0)
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Hydrolysis products of 1,1,1-trimethyl-n-trimethylsilyl silanamine with silica (68909-20-6)

Listed on the Canadian DSL (Domestic Substances List)

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Quartz (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Full text of H-phrases

H227	Combustible liquid
H350	May cause cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor

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Abbreviations and acronyms	
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.