



VINYL TERMINATED (35-45% TRIFLUOROPROPYLMETHYLSILOXANE)-DIMETHYLSILOXANE COPOLYMER

Safety Data Sheet FMV-4035

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SECTION 1: Identification

1.1. Identification

Product name	: VINYL TERMINATED (35-45% TRIFLUOROPROPYLMETHYLSILOXANE)-DIMETHYLSILOXANE COPOLYMER
Product code	: FMV-4035
Product form	: Substance
Physical state	: Liquid
Synonyms	: FLUOROSILICONE; SILOXANE, DIMETHYL, TRIFLUOROPROPYLMETHYL, DIMETHYLVINYL-TERMINATED; SILOXANES and SILICONES, DIMETHYL, METHYL 3,3,3-TRIFLUOROPROPYL, VINYL TERMINATED
Chemical family	: ORGANOSILOXANE

1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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1.3. Supplier

GELEST, INC.
 11 East Steel Road
 Morrisville, PA 19067
USA
 T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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SECTION 2: Hazard(s) identification


2.1. Classification of the substance or mixture

GHS US classification

Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs through prolonged or repeated exposure
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)	: H361 - Suspected of damaging fertility or the unborn child H372 - Causes damage to organs through prolonged or repeated exposure
Precautionary statements (GHS US)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product.

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P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Polymer
Name : VINYL TERMINATED (35-45% TRIFLUOROPROPYLMETHYLSILOXANE)-DIMETHYLSILOXANE COPOLYMER
CAS-No. : 68951-98-4

Name	Product identifier	%	GHS US classification
Vinyl terminated (35-45% trifluoropropylmethylsiloxane)-dimethylsiloxane copolymer	CAS-No.: 68951-98-4	> 97	Not classified
Trifluoropropylmethylcyclotrisiloxane	CAS-No.: 2374-14-3	< 3	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 STOT RE 1, H372 STOT RE 2, H373

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

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

Symptoms/effects after inhalation : No information available.
Symptoms/effects after skin contact : May cause skin irritation.

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Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: None known.

5.2. Specific hazards arising from the chemical

Fire hazard	: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
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6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid all eye and skin contact and do not breathe vapor and mist.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed.
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Incompatible materials	: Oxidizing agent.
Storage area	: Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation.
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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles or safety glasses. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid. Viscous.
Molecular mass	: 6000 – 9000 g/mol
Color	: Translucent.
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: < 0 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 150 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 1.13
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 4000 – 6000 cSt
Viscosity, dynamic	: No data available
Explosive properties	: No data available

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Oxidizing properties : No data available
Explosion limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Trifluoropropionaldehyde vapors may evolve from product used in open systems at temperatures above 150°C. These vapors are a potential health hazard and adequate ventilation must be provided.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Hydrogen fluoride. Organic acid vapors. Silicon dioxide.

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

Trifluoropropylmethylcyclotrisiloxane (2374-14-3)	
LD50 oral rat	180 mg/kg National Technical Information Service
LD50 dermal rabbit	25400 mg/kg body weight National Technical Information Service
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
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Trifluoropropylmethylcyclotrisiloxane (2374-14-3)	
NOAEL (oral,rat,90 days)	0.8 mg/kg body weight Animal: rat, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

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Trifluoropropylmethylcyclotrisiloxane (2374-14-3)

NOAEL (dermal,rat/rabbit,90 days)	40 mg/kg body weight Animal: rabbit
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Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: No information available.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the ozone layer	: No additional information available
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SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations	: Incinerate. Dispose in a safe manner in accordance with local/national regulations.
Ecological information	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
Transport document description			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable

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DOT	TDG	IMDG	IATA
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

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

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Trifluoropropylmethylcyclotrisiloxane	2374-14-3	Present	Active	
Vinyl terminated (35-45% trifluoropropylmethylsiloxane)-dimethylsiloxane copolymer	68951-98-4	Present	Active	XU

15.2. International regulations

CANADA

Trifluoropropylmethylcyclotrisiloxane (2374-14-3)
Listed on the Canadian DSL (Domestic Substances List)
Vinyl terminated (35-45% trifluoropropylmethylsiloxane)-dimethylsiloxane copolymer (68951-98-4)
Listed on the Canadian NDSL (Non-Domestic Substances List)

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EU-Regulations

Trifluoropropylmethylcyclotrisiloxane (2374-14-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Trifluoropropylmethylcyclotrisiloxane (2374-14-3)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on Thailand Existing Chemicals Inventory (DIW)
Listed on the NCI (Vietnam - National Chemical Inventory)

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Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)

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

Full text of H-phrases::	
H301	Toxic if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure

Abbreviations and acronyms

: 2 Moderate Hazard - Temporary or minor injury may occur

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating
Health

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Flammability	: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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