

Revision Date: 07/03/2020

FRV1106

SAFETY DATA SHEET

1. Identification

Product identifier: FRV1106

Other means of identification

Synonyms: Fluoro Aceteoxy Sealant

Recommended use and restriction on use

Recommended use: Silicone Elastomer

Restrictions on use: Not known.

Manufacturer/Importer/Distr :

ibutor Information

Momentive Performance Materials LLC

260 Hudson River Road Waterford NY 12188

Contact person : commercial.services@momentive.com

Telephone : General information

+1-800-295-2392

Emergency telephone

number

Supplier : CHEMTREC

1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation Category 2
Toxic to reproduction Category 2

Unknown toxicity - Health

Acute toxicity, oral	0.045 %
Acute toxicity, dermal	0.045 %
Acute toxicity, inhalation, vapor	0.045 %
Acute toxicity, inhalation, dust or mist	0.045 %

Label Elements

Hazard Symbol:

SDS_US 1/16



Revision Date: 07/03/2020

FRV1106



Signal Word: Warning

Hazard Statement: H315; Causes skin irritation.

H361; Suspected of damaging fertility or the unborn child.

Precautionary Statements

Prevention: Wash thoroughly after handling. 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 ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical

advice/attention. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Take off contaminated clothing.

Storage: 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:

None.

Substance(s) formed under the

conditions of use:

Generates acetic acid during cure.

3. Composition/information on ingredients

SDS_US 2/16



Revision Date: 07/03/2020

FRV1106

Mixtures

Chemical Identity	CAS number	Content in percent (%)*	Notes
Red iron oxide	1309-37-1	5 - <10%	# This substance has workplace exposure limit(s).
Methyltriacetoxysilane	4253-34-3	3 - <5%	No data available.
di-tert-butoxydiacetoxysilane	13170-23-5	1 - <3%	# This substance has workplace exposure limit(s).
Octamethylcyclotetrasiloxane	556-67-2	0.1 - <1%	# This substance has workplace exposure limit(s).

^{*} 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: To clean from skin, remove completely with a dry cloth or paper towel,

before washing with detergent and water. If skin irritation occurs: Get

medical advice/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

Treatment: Treatment is symptomatic and supportive.

5. Fire-fighting measures

SDS_US 3/16



Revision Date: 07/03/2020

FRV1106

General Fire Hazards: Use standard firefighting procedures and consider the hazards of other

involved materials. Prevent runoff from fire control or dilution from entering

streams, sewers, or drinking water supply.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing

media:

All standard extinguishing agents are suitable.

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. Use

water spray to keep fire-exposed containers cool.

Special protective equipment and precautions for firefighters

Special fire fighting

procedures:

Take precautionary measures against static discharges. Keep away from

sources of ignition - No smoking.

Special protective equipment

for fire-fighters:

Firefighters must wear NIOSH/MSHA approved positive pressure selfcontained breathing apparatus with full face mask and full protective

clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid contact with skin and eyes. Use only in well-ventilated areas. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the finger and hands. Product releases acetic acid during application and curing. Keep out of reach of children. See

Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning

up:

Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the

protective equipment section.

Notification Procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in

immediate area). See Section 8 of the SDS for Personal Protective

Equipment.

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

SDS_US 4/16



Revision Date: 07/03/2020

FRV1106

7. Handling and storage

Precautions for safe handling:

Sensitivity to static discharge is not expected. Acetic acid is formed during processing. Wear appropriate personal protective equipment. Use only in well-ventilated areas. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Keep containers tightly closed. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities:

Keep away from heat, sparks and open flame. Keep container tightly closed in a cool, well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Туре	Exposure Limit Values	Source
Red iron oxide - Respirable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2015)
Red iron oxide - Dust and fume as Fe	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Red iron oxide - Fume.	PEL	10 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	10 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	TWA PEL	5 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
Red iron oxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Red iron oxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Red iron oxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Red iron oxide	IDLH	2,500 mg/m3	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
Octamethylcyclotetrasiloxane	TWA	5 ppm	
Octamethylcyclotetrasiloxane - Vapor.	ST ESL	1,000 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL	100 μg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
Octamethylcyclotetrasiloxane	TWA	10 ppm	US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended (2014)
Chemical Identity	Туре	Exposure Limit Values	Source
Red iron oxide - Respirable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2015)

SDS_US 5/16



Revision Date: 07/03/2020

FRV1106

Red iron oxide - Dust and	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical
fume as Fe			Hazards, as amended (2010)
Red iron oxide - Fume.	PEL	10 mg/m3	US. OSHA Table Z-1 Limits for Air
		_	Contaminants (29 CFR 1910.1000), as
			amended (02 2006)
	TWA	10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000),
		· ·	as amended (1989)
	TWA	10 mg/m3	US. Tennessee. OELs. Occupational Exposure
		-	Limits, Table Z1A, as amended (06 2008)
	TWA PEL	5 mg/m3	US. California Code of Regulations, Title 8,
		•	Section 5155. Airborne Contaminants, as
			amended (01 2015)
Red iron oxide - Total dust.	TWA	50 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
		particles per	amended (03 2016)
		cubic foot of	, ,
		air	
Red iron oxide - Respirable	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as
fraction.		_	amended (03 2016)
	TWA	15 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
		particles per	amended (03 2016)
		cubic foot of	
		air	
Red iron oxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as
		_	amended (03 2016)
Red iron oxide	IDLH	2,500 mg/m3	US. NIOSH. Immediately Dangerous to Life or
			Health (IDLH) Values, as amended (10 2017)

This product contains one or more substances with an occupational exposure limit. However, the respirable particle(s) of this/these substance(s) are inextricably bound within the polymer matrix. Therefore, we do not expect an exposure to this/these substance(s) during normal use of this product. Tooling or machining of the cured product (sanding, cutting, milling) may release hazardous, respirable substances.

Appropriate Engineering

Controls

Eye wash facilities and emergency shower must be available when

handling this product.

Individual protection measures, such as personal protective equipment

General information: No data available.

Eye/face protection: Safety glasses with side shields

Skin Protection

Hand Protection: Chemical resistant gloves

Other: 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: Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation,

especially in confined areas. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product.

When using do not eat, drink or smoke.

SDS_US 6/16



Revision Date: 07/03/2020

FRV1106

9. Physical and chemical properties

Appearance

Physical state:solidForm:PasteColor:Red

Odor: Acetic acid.
Odor threshold: No data available.
pH: Not applicable
Melting point/freezing point: No data available.

Initial boiling point and boiling range: > 176 °C (1.013 hPa)
Flash Point: > 121 °C

Evaporation rate: No data available. Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):

Flammability limit - lower (%):

Explosive limit - upper:

Explosive limit - lower:

No data available.

Vapor pressure: No data available.

Vapor density:No data available.Density:ca. 1.46 g/cm3Relative density:ca. 1.46

Solubility(ies)

Solubility in water: Insoluble
Solubility (other): Insoluble

Partition coefficient (n-octanol/water) Log

Pow:

No data available.

Auto-ignition temperature:

Decomposition temperature:

No data available.

No data available.

No data available.

Viscosity, dynamic:

No data available.

No data available.

No data available.

VOC: ; Falls not under the swiss VOC regulation (content of VOC

listed components < 3 w%).

10. Stability and reactivity

Reactivity: No dangerous reaction if used as recommended.

SDS_US 7/16



Revision Date: 07/03/2020

FRV1106

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous

reactions:

Under normal conditions of storage and use, hazardous polymerization will

not occur.

Conditions to avoid: Keep away from moisture.

Incompatible Materials: Strong Acids, Strong Bases Water.

Hazardous Decomposition

Products:

Carbon dioxide Acetic acid. Silicon dioxide. 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.

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:

ATEmix: 36,244.59 mg/kg

Specified substance(s):

Methyltriacetoxysilane LD 50 (Rat, female): 1,830 mg/kg

LD 50 (Rat): 1,550 mg/kg

di-tert-

LD 50 (Rat): 1,400 mg/kg

butoxydiacetoxysilane

Octamethylcyclotetrasilox

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

ane

SDS_US 8/16



Revision Date: 07/03/2020

FRV1106

Dermal

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

Specified substance(s):

Octamethylcyclotetrasilox

ane

LD 50 (Rat): > 2,375 mg/kg

Inhalation

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

Specified substance(s):

Octamethylcyclotetrasilox

ane

LC50 (Rat): 36 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) (Rabbit): Irritating to

skin. The health hazard evaluation is based on the toxicological properties of

a similar material.

Serious Eye Damage/Eye Irritation

Product: OECD-Guideline 405 (Acute Eye Irritation/Corrosion) (Rabbit): Non irritating

The health hazard evaluation is based on the toxicological properties of a

similar material.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

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

No carcinogenic components identified

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

No carcinogenic components identified

SDS_US 9/16



Revision Date: 07/03/2020

FRV1106

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

 ${\bf Octamethyl cyclotetrasilox}$

ane

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

Mouse Lymphoma Assay (OECD Guidline 476): negative (not mutagenic)

In vivo

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasilox Ch

ane

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

Product: No data available.

SDS_US 10/16



Revision Date: 07/03/2020

FRV1106

Other effects:

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:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

SDS_US 11/16



Revision Date: 07/03/2020

FRV1106

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):

Octamethylcyclotetrasilox 3.7 % (29 d, 310 Ready Biodegradability - CO₂ in Sealed Vessels

ane (Headspace Test)) Not readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasilox Fathead Minnow, Bioconcentration Factor (BCF): 12.40

ane

Partition Coefficient n-octanol / water (log Kow)
Product:
No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Red iron oxide No data available.

Methyltriacetoxysilane No data available.

di-tert- No data available.

butoxydiacetoxysilane

Octamethylcyclotetrasiloxa No data available.

ne

Other adverse effects: No data available.

SDS_US 12/16



Revision Date: 07/03/2020

FRV1106

13. Disposal considerations

General information: The generation of waste should be avoided or minimized wherever

possible. See Section 8 for information on appropriate personal protective equipment. Do not discharge into drains, water courses or onto the ground.

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

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

Special precautions for user: This product is not regarded as dangerous goods according to the

national and international regulations on the transport of

dangerous goods.

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):

<u>Chemical Identity</u> <u>Reportable quantity</u>

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Skin Corrosion or Irritation Reproductive toxicity

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SDS_US 13/16



Revision Date: 07/03/2020

FRV1106

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity Threshold Planning Quantity

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

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

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

Chemical Identity

Fluoropropylmethylsiloxanediol Red iron oxide Treated Fumed Silica Methyltriacetoxysilane di-tert-butoxydiacetoxysilane Acetic acid

Acetic Anhydride

Octamethylcyclotetrasiloxane

US. Massachusetts RTK - Substance List

Chemical Identity

Red iron oxide

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Red iron oxide

US. Rhode Island RTK

Chemical Identity

Red iron oxide

SDS_US 14/16



Revision Date: 07/03/2020

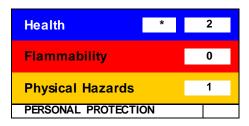
FRV1106

Inventory Status:

Australia AICS:	y (positive listing)	Remarks: None.
EU EINECS List:	y (positive listing)	Remarks: None.
Japan (ENCS) List:	y (positive listing)	Remarks: None.
China Inventory of Existing	y (positive listing)	Remarks: None.
Chemical Substances:		
Korea Existing Chemicals Inv.	y (positive listing)	Remarks: None.
(KECI):		
Canada DSL Inventory List:	y (positive listing)	Remarks: None.
Canada NDSL Inventory:	n (Negative listing)	Remarks: None.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: On TSCA Inventory
Taiwan Chemical Substance	y (positive listing)	Remarks: None.
Inventory:		
REACH:	If purchased from Momentive	Remarks: None.
	Performance Materials GmbH in	
	Leverkusen, Germany, all	
	substances in this product have	
	been registered by Momentive	
	Performance Materials GmbH or	
	upstream in our supply chain or are	
	exempt from registration under	
	Regulation (EC) No 1907/2006	
	(REACH). For polymers, this	
	includes the constituent monomers	
	and other reactants.	

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

HMIS Hazard ID



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

Issue Date: 07/03/2020

Revision Date: No data available.

Version #: 2.1

Further Information: No data available.

SDS_US 15/16



Revision Date: 07/03/2020

FRV1106

Disclaimer:

Notice to reader

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives. Keep out of the reach of children.

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 warrantyor 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.

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SDS_US 16/16