

FRV1106

# SAFETY DATA SHEET

## 1 Product and company identification

**Name of chemical (Product name):** FRV1106  
**Manufacturer :** Momentive Performance Materials Japan LLC  
 Akasaka Park Building  
 5-2-20 Akasaka, Minato-ku  
 Tokyo Japan

**Distributor Information :** DC Products Pty Limited  
 Unit 117 45 Gilby Road  
 Mount Waverley 3149 Australia

**Contact person :** Viren Kumar

**Telephone :** +61 3 95588898

**Emergency telephone number**  
**Supplier :** 61 418 529 118

## 2 Hazard(s) identification

### GHS classification:

<b>Physical Hazards</b>	Explosives	Classification not possible
	Flammable gas	not applicable
	Chemically unstable gases	not applicable
	Aerosols	not applicable
	Oxidizing gases	not applicable
	Gases under pressure	not applicable
	Flammable liquids	not applicable
	Flammable solid	Classification not possible
	Self-reactive substances and mixtures	Classification not possible
	Pyrophoric liquids	not applicable
	Pyrophoric solids	Classification not possible
	Self-heating substances and mixtures	Classification not possible
	Substances and mixtures, which in contact with water, emit flammable gases	Classification not possible
	Oxidizing liquids	not applicable
	Oxidizing solids	Classification not possible
Organic peroxides	Classification not possible	
Corrosive to metals	Classification not possible	
<b>Health Hazards</b>	Acute toxicity (Oral)	Not classified
	Acute toxicity (Dermal)	Not classified
	Acute toxicity (Inhalation - gas)	not applicable
	Acute toxicity (Inhalation - vapor)	Not classified
	Acute toxicity (Inhalation - dust and mist)	Not classified
	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Eye Irritation	Not classified
	Respiratory sensitizer	Classification not possible
Skin sensitizer	Classification not possible	

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	Germ Cell Mutagenicity	Classification not possible
	Carcinogenicity	Classification not possible
	Toxic to reproduction	Classification not possible
	Specific Target Organ Toxicity - Single Exposure	Not classified
	Specific Target Organ Toxicity - Repeated Exposure	Category 2 <sup>1</sup>
	Aspiration Hazard	not applicable
<b>Environmental Hazards</b>	Acute hazards to the aquatic environment	Not classified
	Chronic hazards to the aquatic environment	Not classified
	Hazardous to the ozone layer	Not classified

1. testes, respiratory tract

**GHS label elements**

**Symbol(s):**



**Signal Word:** Warning

**Hazard Statement(s):** Causes skin irritation.  
 May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention:** Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing and wash it before reuse.

**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.

**Main symptoms and emergency overview**

**Main symptoms:** No data available.

**Emergency Overview:** No data available.

**3 Composition/information on ingredients**

**Chemical nature:** Silicone compound

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**Mixtures**

Chemical Identity	CAS number	Concentration*
Red iron oxide	1309-37-1	1 - 10%
Methyltriacetoxysilane	4253-34-3	1.0 - 10%
Alkoxyacetoxysilane	Trade secret	1.0 - 10%
Acetic acid	64-19-7	0.1 - 1.0%
Octamethylcyclotetrasiloxane	556-67-2	0.1 - 1.0%

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

**Trade secret information:** \*\* A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

**4 First-aid measures**

**Inhalation:** If inhaled, move victim to fresh air and seek medical attention.

**Eye contact:** Flush thoroughly with water for at least 15 minutes. Get medical assistance.

**Skin Contact:** After contact with skin, remove product mechanically. Wash with plenty of water/... Get medical attention promptly if symptoms occur after washing.

**Ingestion:** If swallowed, do NOT induce vomiting. Give a glass of water. Do not give victim anything to drink if he is unconscious. Get medical attention if any discomfort continues.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** No data available.

**Hazards:** No data available.

**5 Fire-fighting measures**

**Extinguishing media:** Extinguish with foam, carbon dioxide or dry powder.

**Unsuitable extinguishing media:** No data available.

**6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Wash skin thoroughly with soap and water. Keep container tightly closed and in a well-ventilated place. See Section 8 of the SDS for Personal Protective Equipment. Avoid contact with skin and eyes.

**Environmental Precautions:** No data available.

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**Methods or materials 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.

**Prevention of secondary hazards:** No data available.

**7 Handling and storage**

**Handling**

**Technical measures (e.g. Local and general ventilation):** Provide adequate general and local exhaust ventilation. Eyewash bottle with clean water.

**Safe handling advice:** "Wear eye, hand and respiratory protection when in handling." Ground container and transfer equipment to eliminate static electric sparks. Protect from moisture. Seal opened containers and use up as soon as possible. Acetic acid is formed during processing. Use only in well-ventilated areas.

**Contact avoidance measures:** No data available.

**Hygiene measures:** No data available.

**Storage**

**Safe storage conditions:** Store in a dark, cool place indoors, with container tightly closed.

**Safe packaging materials:** No data available.

**8 Exposure controls/personal protection**

**Control Parameters**

**Occupational Exposure Limits:**

Chemical name	Type	Exposure Limit Values	Regulation Sources
Red iron oxide - Total dust.	TWA	4 mg/m3	Japan. OELs - JSOH. (Japan Society of Occupational Health: Advisory Opinion on Permissible [Exposure] Limits) (05 2014)
Red iron oxide - Respirable dust.	TWA	1 mg/m3	Japan. OELs - JSOH. (Japan Society of Occupational Health: Advisory Opinion on Permissible [Exposure] Limits) (05 2014)
Acetic acid	TWA	10 ppm 25 mg/m3	Japan. OELs - JSOH. (Japan Society of Occupational Health: Advisory Opinion on Permissible [Exposure] Limits) (05 2014)
Acetic Anhydride	CEILING	5 ppm 21 mg/m3	Japan. OELs - JSOH. (Japan Society of Occupational Health: Advisory Opinion on Permissible [Exposure] Limits) (05 2014)

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**Personal protective equipment (ppe)**

**Respiratory Protection:** Gas mask with organic vapor canister and dust and mist filter.  
**Eye Protection:** Safety glasses with side shields  
**Hand Protection:** No data available.  
**Skin and Body Protection:** Chemical resistant clothing Wear rubber boots.

**9 Physical and chemical properties**

**Appearance**

**Physical state:** solid  
**Form:** Paste  
**Color:** Red  
**Odor:** Acetic acid.  
**Odor threshold:** No data available.  
**pH:** No data available.  
**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 (%):** No data available.  
**Flammability limit - lower (%):** No data available.  
**Explosive limit - upper (%):** No data available.  
**Explosive limit - lower (%):** No data available.  
**Vapor pressure:** No data available.  
  
**Density:** No data available.  
**Vapor density:** No data available.  
**Relative density:** No data available.  
**Solubility(ies)**  
**Solubility in water:** No data available.  
**Solubility (other):** Insoluble  
**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.

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**10 Stability and reactivity**

<b>Reactivity:</b>	No dangerous reaction if used as recommended.
<b>Chemical Stability:</b>	No data available.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	No data available.
<b>Incompatible Materials:</b>	The catalysis of strong acids or bases cause polymerization or decomposition.
<b>Hazardous Decomposition Products:</b>	Carbon dioxide Acetic acid. Silicon dioxide. Formaldehyde. This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity (list all possible routes of exposure)**

**Oral**

<b>Product:</b>	ATEmix: 36,244.59 mg/kg
<b>Specified substance(s):</b>	
Methyltriacetoxysilane	LD 50 (Rat, female): 1,830 mg/kg LD 50 (Rat: 1,550 mg/kg (OECD-Guideline 401 (Acute Oral Toxicity))
Alkoxyacetoxysilane	LD 50 (Rat: > 1,400 mg/kg
Acetic acid	LD 50 (Rat: 3,310 mg/kg
Octamethylcyclotetrasiloxane	LD 50 (Rat: 4,800 mg/kg (OECD-Guideline 401 (Acute Oral Toxicity)) Not classified

**Dermal**

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

**Specified substance(s):**  
 Octamethylcyclotetrasiloxane  
 LD 50 (Rat: > 2,400 mg/kg (OECD Test Guideline 402)  
 Not classified

**Inhalation**

**Product:** Not classified for acute toxicity based on available data.  
**Specified substance(s):**

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Acetic acid TDLo (Rat, 4 h): 16 mg/l  
**Specified substance(s):**  
 Octamethylcyclotetrasiloxane LC50 (Rat, 4 h): 36 mg/l (OECD Test Guideline 403)

**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.

**Japan Society for Occupational Health: Carcinogen:**  
 No carcinogenic components identified

**Japan. ISHL Designated Carcinogen:**  
 No carcinogenic components identified

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**  
 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.

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**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.

**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**

**Fish**

**Product:** No data available.

**Specified substance(s):**

Acetic acid LC50 (Lepomis macrochirus, 96 h): 75 mg/l  
 LC0 (Leuciscus idus): 368 mg/l LC100  
 (Leuciscus idus): 452 mg/l LC50  
 (Leuciscus idus, 48 h): 410 mg/l  
 LC50 (Pimephales promelas, 96 h): 88 mg/l

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

Acetic acid LC0 (Daphnia magna): 150 mg/l  
 EC50 (Daphnia magna, 24 h): 95 mg/l

**Chronic hazards to the aquatic environment**

**Fish**

**Product:** No data available.

**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):**

Acetic acid 60 % (5 d, No data available.)  
 Octamethylcyclotetrasiloxane 3.7 % (29 d, 310 Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels  
 (Headspace Test)) Not readily biodegradable.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

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**Product:** No data available.  
**Specified substance(s):**  
Octamethylcyclotetrasiloxane Bioconcentration Factor (BCF): 12,400  
e

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility**

**Mobility in soil:** No data available.

**Known or predicted distribution to environmental compartments**

Red iron oxide No data available.  
Methyltriacetoxysilane No data available.  
Alkoxyacetoxysilane No data available.  
Acetic acid No data available.  
Octamethylcyclotetrasiloxane No data available.

**Hazardous to the ozone layer:** No data available.

**Other adverse effects:** No data available.

**13 Disposal considerations**

**General information:** none

**Disposal methods:** This product falls under Industrial Waste based on Wastes Disposal and Public Cleansing Law. Dispose of in accordance with this law and local regulations.

**Contaminated Packaging:** No data available.

**14 Transport information**

**International regulations**

**IMDG - International Maritime Dangerous Goods Code**

Not regulated.

**IATA**

Not regulated.

**National Regulations**

**Domestic Standard:** In compliance with domestic law.

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**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. Protect from moisture. Keep away from food, foodstuff, acids and bases. keep away from odour sensitive materials

**15 Regulatory information**

**Law concerning Pollutant Release and Transfer Register**

**PRTR and Promotion of Chemical Management Law, new regulated substances (Cabinet Order No. 356, 2008):**

**Specified Class 1 substance(s):** not applicable

**Class 1 Substance(s):** not applicable

**Class 2 Substance(s):** not applicable

**Industrial Safety and Health Act:**

**Article 57-2 Regulated Substance(s):** Iron oxide,

**Article 57 Regulated Substance(s) subject to labeling:** Iron oxide,

**ISHL Organic Solvents**

not applicable

**ISHL Designated or Specified Chemical Substances**

not applicable

**Poisonous and Deleterious Substances Control Act:**

**Specified poisonous substance(s):**

**Main law:** not applicable

**Cabinet order:** not applicable

**Poisonous Substance(s): Main**

**law:** not applicable **Cabinet**

**order:** not applicable

**Deleterious Substance(s): Main**

**law:** not applicable **Cabinet**

**order:** not applicable

**High Pressure Gas Safety Law**

not applicable

**Fire Service Law:**

Designated Combustible material (Combustible Solid)

No fire

**Japan CSCL: Priority Assessment Chemical Substances:** not applicable

**Act on Prevention of Marine Pollution and Maritime Disaster:** not applicable

**Inventory Status**

Australia AICS: y (positive listing)

EU EINECS List: y (positive listing)

Remarks: None.

Remarks: None.

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Japan (ENCS) List:	y (positive listing)	Remarks: None.
China Inventory of Existing Chemical Substances:	y (positive listing)	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	y (positive listing)	Remarks: None.
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 Inventory:	On or in compliance with the inventory	Remarks: None.

**16 Other Information**

**Revision Information:** ARGLO\_INVSTSARGHS\_JP  
**Issue Date:** 10/26/2017  
**SDS No.:**  
**Disclaimer:**

**Notice to reader**

This material is developed and manufactured for industrial applications only. For medical or other special applications, use after performing safety testing on the product and confirming safety. Never use for human applications such as implant, impregnation, or where a residue may possibly remain in the body.

**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.

**Literature Reference:** No data available.