

SAFETY DATA SHEET

(In accordance with Article 41, Paragraph 1, of Industrial Safety and Health Act)

1. PRODUCT AND COMPANY IDENTIFICATION

A. Product name: SF1202

B. Recommended use and restriction on use

Recommended use: Industrial use Cosmetic ingredient Raw material for silicone elastomers
Restrictions on use: None known.

C. Manufacturer/Importer/Distributor Information

Manufacturer/Importer/Distributor Information : Momentive Performance Materials Korea Co., Ltd.
8FL, Daeryung Post Tower 6-Cha, 298, Beotkkot-ro,
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Responsible Department : Product Stewardship & Compliance

2. HAZARDS IDENTIFICATION

A. Hazard Classification

The product has not been classified as hazardous according to the legislation in force.

B. Warning label items including precautionary statement

Signal Word: none

Hazard Statement(s): None.

Precautionary Statement

Prevention: Not applicable: not applicable

Response: Not applicable: not applicable

Storage: Not applicable: not applicable

Disposal: Not applicable: not applicable

C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard) No data available.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature: Cyclic siloxane(s).
Chemical name Decamethylcyclopentasiloxane
KECI No. KE-09395
CAS-No.: 541-02-6

Chemical name Octamethylcyclotetrasiloxane
KECI No. KE-26606
CAS-No.: 556-67-2

Substance

Chemical Identity	CAS number	Concentration*
Decamethylcyclopentasiloxane	541-02-6	>=90 - <=100%

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

Impurities and stabilizing additives which contribute to the hazard

Chemical Identity	CAS number	Concentration*
Octamethylcyclotetrasiloxane	556-67-2	>=0.1 - <1%

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

4. FIRST AID MEASURES

- A. In case of eye contact:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- B. In case of skin contact:** Wash area with soap and water. Get medical attention if symptoms occur.
- C. In case of inhalation:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms persist.
- D. In case of swallowing:** Do NOT induce vomiting. Do not give victim anything to drink if he is unconscious. Get medical attention.

E. Notes to the physician

Hazards No data available.

Symptoms: Treatment is symptomatic and supportive.

Treatment: Treatment is symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

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General Fire Hazards: Remove sources of combustibles. Extinguish the fire using fire-fighting media listed above. Cool surrounding tanks, buildings and so on by spraying with water to prevent the fire extension.
 The fire fighting should be done from the windward side, with suitable respiratory protective device, if necessary.

A. Extinguishing media

Suitable extinguishing media: Carbon dioxide Foam. Water spray

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

B. Special hazards arising from the substance or mixture: Vapours may form explosive mixture with air. May travel considerable distance to source of ignition and flash back.

C. Special fire fighting procedures: All equipment used when handling the product must be grounded. Keep away from combustible material. When using do not smoke. Do not empty into drains.

Special protective equipment for fire-fighters: Fire or excessive heat may produce hazardous decomposition products. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep upwind. Keep unprotected persons away. Remove sources of ignition.

B. Environmental Precautions: No data available.

C. Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material. Sweep up spilled substance and remove to safe place. Remove sources of ignition.

Notification Procedures: Caution: Contaminated surfaces may be slippery. Pay attention to the risk of combustion by fire or other sources of ignition.

7. HANDLING AND STORAGE

A. Precautions for safe handling: Product may charge electrostatically during pouring or filling. Keep container tightly closed in a cool, well-ventilated place. Wash hands after handling.

B. Conditions for safe storage, including any incompatibilities: Keep container tightly closed and in a well-ventilated place. Keep away from food, drink and animal feeding stuffs.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

A. Exposure limit values, biological values, etc.

Occupational Exposure Limits

None of the components have assigned exposure limits.

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B. Appropriate engineering controls: Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.
 Eyewash bottle with clean water.

C. Personal protective equipment (ppe)

Eye Protection Safety glasses with side shields

Hand Protection: Chemical resistant gloves

Respiratory Protection: Gas mask with organic vapor canister and dust and mist filter.

Body protection Wear rubber boots. Chemical resistant clothing

Hygiene measures: Avoid contact with eyes, skin, and clothing. Wash hands after handling.
 When using do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance

Physical state: liquid
Form: liquid
Color: Colorless

B. Odor: Faint

C. Odor Threshold: No data available.

D. pH: No data available.

E. Melting point/freezing point < -40 °C

F. Boiling point, initial boiling point, and boiling range 210.00 °C

G. Flash Point: 76.6 °C (Closed Cup)

H. Evaporation Rate: < 1

I. Flammability (solid, gas): This product is not flammable.

J. Upper/lower limit on flammability or explosive limits

Flammability Limit - Upper (%) No data available.
Flammability Limit - Lower (%): No data available.
Dust Explosion Limit, Upper: No data available.
Dust Explosion Limit, Lower: No data available.

K. Vapor pressure: 0.16 hPa (20 °C)

L. Vapor density (air=1): No data available.

M. Density: 0.96 g/cm³ (25 °C)

N. Specific Gravity: 0.95

O. Solubility(ies)

Solubility in Water: Insoluble
Solubility (other): Soluble in toluene

P. Partition coefficient (n-octanol/water) 8.02

Log Pow:

Q. Autoignition Temperature: 392 °C

R. Decomposition Temperature: No data available.

S. SADT: No data available.

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T. Viscosity, dynamic:	4 mPa·s (20 °C)
Viscosity, kinematic:	No data available.
U. Molecular weight:	No data available.
Other information:	
Minimum ignition temperature:	450 °C (1.013 hPa)
Explosive properties:	Not classified

10. STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential:

Stability	No data available.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.

B. Conditions to avoid: Keep away from sources of ignition - No smoking.

C. Incompatible Materials: None known.

D. Hazardous Decomposition Products: Carbon dioxide, Formaldehyde, Silicon dioxide. 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

A. Information on likely routes of exposure

Respiratory organs:	No data available.
Oral:	No data available.
Skin:	No data available.
eye:	No data available.

B. Information on health hazards

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): > 5,000 mg/kg
Specified substance(s)	
Decamethylcyclopentasiloxane	No data available.
Octamethylcyclotetrasiloxane	LD 50 (Rat): 4,800 mg/kg (OECD-Guideline 401 (Acute Oral Toxicity)) Not classified LD 50 (Mouse): 1,700 mg/kg Not classified
Dermal	
Product:	No data available.

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Specified substance(s)

Decamethylcyclopentasiloxane No data available.
 Octamethylcyclotetrasiloxane LD 50 (Rat): > 2,400 mg/kg (OECD Test Guideline 402)
 Not classified

Inhalation

Product: LC50 (Rat, 4 h): 8.67 mg/l (OECD Test Guideline 403) Aerosols Information refers to the main component.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.
 Octamethylcyclotetrasiloxane LC50 (Rat, 4 h): > 12.1 mg/l
 LC50 (Rat, 4 h): 36 mg/l (OECD Test Guideline 403)

Repeated dose toxicity

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.
 Octamethylcyclotetrasiloxane No data available.

Corrosivity or irritation to the skin:

Product: (Rabbit, 72 h): No skin irritation

Serious Eye Damage/Eye Irritation:

Product: OECD Test Guideline 405 (Rabbit, 72 h): Non irritating

Respiratory or Skin Sensitization:

Product: Bühler-Patch-Test skin sensitisation on guinea pigs: negative

Mutagenesis

In vitro

Product: Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic) Information refers to the main component.
 Mammalian cytogenicity test (Mouse Lymphoma Assay (OECD Guideline 476)): negative (not mutagenic) Information refers to the main component.
 Chromosomal aberration (OECD 473): negative (not mutagenic) Information refers to the main component.

In vivo

Product: OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test) (Mouse): negative (not mutagenic) Information refers to the main component.

Carcinogenicity

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.
 Octamethylcyclotetrasiloxane No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

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Decamethylcyclopentasiloxane No data available.
Octamethylcyclotetrasiloxane No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.
Octamethylcyclotetrasiloxane No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.
Octamethylcyclotetrasiloxane No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.
Octamethylcyclotetrasiloxane No data available.

Other effects: No data available.

Specified substance(s):

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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

General information: not applicable not applicable

A. Ecotoxicity

Acute hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.

Octamethylcyclotetrasiloxane No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.

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Octamethylcyclotetrasiloxane No data available.

Chronic hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.

Octamethylcyclotetrasiloxane No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.

Octamethylcyclotetrasiloxane No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.

Octamethylcyclotetrasiloxane No data available.

B. Persistence and Degradability

Biodegradation

Product: 0.14 % (28 d, OECD Test Guideline 310) Information refers to the main component.

BOD/COD Ratio

Product No data available.

Specified substance(s)

Decamethylcyclopentasiloxane No data available.

Octamethylcyclotetrasiloxane No data available.

C. Bioaccumulative Potential

Product: Fathead Minnow, Bioconcentration Factor (BCF): 7,060 (OECD Test Guideline 305) Information refers to the main component.

D. Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Decamethylcyclopentasiloxane No data available.

Octamethylcyclotetrasiloxane No data available.

E. Other Adverse Effects: No data available.

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13. Disposal considerations

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

A. Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

B. Disposal considerations (including disposal of contaminated containers or packaging) The generation of waste should be avoided or minimized wherever possible. The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

14. TRANSPORT INFORMATION

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

A. Restriction under the Industrial Safety and Health Law

Controlled Hazardous Substances

None present or none present in regulated quantities.

Harmful Substances Prohibited from Manufacturing

None present or none present in regulated quantities.

Harmful Substances Requiring Permission for Manufacture or Use

None present or none present in regulated quantities.

B. Restrictions under the Chemicals Control Act.

Accidental Release Prevention Substances

None present or none present in regulated quantities.

Banned Toxic Chemicals

None present or none present in regulated quantities.

Restricted Chemical Substances

None present or none present in regulated quantities.

Toxic Chemicals

None present or none present in regulated quantities.

Toxic release inventory

None present or none present in regulated quantities.

C. Restrictions under the Dangerous Substances Safety Management Act

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Class 4, Group 3 oils Non-water soluble

D. Restrictions under the Wastes Control Act

Halogenated Materials in Waste Organic Solvents
 Not Regulated

E. Restrictions under other foreign or domestic laws

Clean Air Conservation Act

Air Pollutants
 Not Regulated

Specific Air Pollutants
 Not Regulated

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 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.
New Zealand Inventory of Chemicals:	y (positive listing)	Remarks: None.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: None.
Taiwan. Taiwan inventory (CSNN):	y (positive listing)	Remarks: None.

16. OTHER INFORMATION

- A. Source of information:** No data available.
- B. Issue Date** 2016/09/20
- C. Number of revisions and date of most recent revision:**
- D. Other:** No data available.

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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.

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.

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