SAFETY DATA SHEET

1. Identification

Product identifier: FSE7560

Other means of identification
Synonyms: FLUOROSILICONE RUBBER COMPOUND

Recommended use and restriction on use
Recommended use: Mixture
Restrictions on use: Not known.

Manufacturer/Importer/Distributor 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

Toxic to reproduction — Category 2

Label Elements

Hazard Symbol:

Signal Word: Warning

Hazard Statement: Suspected of damaging fertility.

Target Organs

No data available.

Precautionary Statement

Prevention: 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 exposed or concerned: Get medical advice/attention.

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.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Silica, amorphous, fumed, crystalline free	112945-52-5	15 - 40%
Octamethylcyclotetrasiloxane	556-67-2	1 - 5%
TITANIUM DIOXIDE	13463-67-7	0.1 - 1%

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

Composition Comments: The respirable particle(s) listed above are inextricably bound within the polymer matrix, and therefore does not present an inhalation hazard during normal use of this product. Tooling or machining of the cured product (sanding, cutting, milling) may release hazardous, respirable substances.

4. First-aid measures

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 symptoms persist.

Inhalation:	Move the exposed person to fresh air at once. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Get medical attention if symptoms persist.
Skin Contact:	Wash with soap and water. Get medical attention if symptoms occur.
Eye contact:	Rinse immediately with plenty of water and seek medical advice. Get medical attention if symptoms persist.

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

General Fire Hazards:	No data available.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	All standard extinguishing agents are suitable.
Unsuitable extinguishing media:	No data available.
Specific hazards arising from the chemical:	No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid contact with eyes. Curing releases vapors which may be harmful. Keep out of reach of children. Keep container closed. 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.

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

7. Handling and storage

Precautions for safe handling: Sensitivity to static discharge is not expected.

Conditions for safe storage, including any incompatibilities: Keep away from heat, sparks and open flame. Keep out of the reach of children.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Silica, amorphous, fumed, crystalline free	REL	6 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
TITANIUM DIOXIDE	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (03 2015)
TITANIUM DIOXIDE - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

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: Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: No data available.

Other: Wear apron or protective clothing in case of contact. Protective clothing should be chemical/oil resistant.

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: No data available.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	solid
Color:	White
Odor:	Odorless
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	not applicable
Flash Point:	ca. 93.3 °C
Evaporation rate:	not applicable
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:	not applicable
Vapor density:	not applicable
Density:	ca. 1.395 g/cm3
Relative density:	ca. 1.39
Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	No data available.

Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	not applicable
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
VOC:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No data available.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.
Conditions to avoid:	Material is stable under normal conditions.
Incompatible Materials:	None known.
Hazardous Decomposition Products:	Carbon dioxide Silicon dioxide. Formaldehyde. Hydrogen fluoride. 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:

Specified substance(s):

Octamethylcyclotetrasiloxane	LD 50 (Rat): 4,800 mg/kg LD 50 (Mouse): 1,700 mg/kg
TITANIUM DIOXIDE	LD 50 (Rat): > 10,000 mg/kg

Dermal

Product:

Specified substance(s):

Octamethylcyclotetrasiloxane	LD 50 (Rat): 2,400 mg/kg
TITANIUM DIOXIDE	LD 50 (Rabbit): > 10,000 mg/kg

Inhalation

Product:

Specified substance(s):

Octamethylcyclotetrasiloxane	LC50 (Rat): 12.1 mg/l LC50 (Rat): 36 mg/l
TITANIUM DIOXIDE	LC50 (Rat): > 6.8 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

TITANIUM DIOXIDE	Overall evaluation: 2B. Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
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 Guidline 476) (Mouse Lymphoma Assay (OECD Guidline 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.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

No data available.

Aspiration Hazard

Product: No data available.

Other effects:

A 24-hour dermal study in rabbits showed only nasal discharge and/or tearing at 2 g/kg. Preliminary results from an on going 13-week subchronic and one generation reproductive study with trifluoropropylmethylcyclotrisiloxane (TFPMCT) show three new reproductive end points that were significantly altered compared to control animals. In addition, preliminary histopathologic evalution identified changes in the liver, heart, and skeletal muscle. Reproductive effects include increased length of pregnancy and difficulties giving birth, decreased litter size at 35 mg/kg/day, and decreased Clinical signs of neurotoxicity (slight trembling and stumbling) seen in this 13-week subchronic and one generation reproductive study now have been observed at lower dose levels(20 mg/kg/day). In the liver, periportal hepatocyte enlargement with vacuolation of the cytoplasm was observed at the Lowest Observed Effect Level (LOEL) of 0.8 mg/kg/day. In the heart, cardiomyopathy was observed at a LOEL of 4.0 mg/kg/day. Degeneration in the skeletal muscle was seen at a LOEL of 20 mg/kg/day and was characterized by changes in the shape and size of myocytes, loss of cross striations, increased cellularity, and expansion of the myocardial interstitial tissue. The significance of these findings to humans is unclear at this time.

Octamethylcyclotetrasiloxane
Ingestion: Rodents given large doses via oral gavages of Octamethylcyclotetrasiloxane (1600 mg/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. 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 Octamethylcyclotetrasiloxane (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.

Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300ppm dosing levels.

Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group.

These results have been shown to be rat-specific. Further studies are ongoing.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

TITANIUM DIOXIDE	LC0 (Leuciscus idus, 48 h): > 1,000 mg/l

Aquatic Invertebrates

Product:	No data available.

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):

Octamethylcyclotetrasiloxane	3.7 % (29 d, 310 Ready Biodegradability - CO_2 in Sealed Vessels (Headspace Test)) Not readily biodegradable.
TITANIUM DIOXIDE	0 %

BOD/COD Ratio

Product:	No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane	Fathead Minnow, Bioconcentration Factor (BCF): 12.40

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Silica, amorphous, fumed, crystalline free	No data available.
Octamethylcyclotetrasiloxane	No data available.
TITANIUM DIOXIDE	No data available.

Known or predicted distribution to environmental compartments

Fluoropropylmethylsiloxane diol	No data available.
Siloxanes and Silicones, di-Me, Me vinyl	No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of according to all federal, state and local applicable regulations.

Contaminated Packaging: No data available.

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. Keep away from foodstuffs and animal feed.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
Octamethylcyclotetrasiloxane	De minimis concentration: TSCA Section: 4% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
Fluoropropylmethylsiloxanediol	No OSHA Hazards
Silica, amorphous, fumed, crystalline free	No OSHA Hazards
Octamethylcyclotetrasiloxane	Systemic effects

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Acute Health Hazard
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Silica, amorphous, fumed, crystalline free	10000 lbs
Octamethylcyclotetrasiloxane	10000 lbs
TITANIUM DIOXIDE	10000 lbs

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
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

TITANIUM DIOXIDE	Carcinogenic.

US. New Jersey Worker and Community Right-to-Know Act
No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List
No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Silica, amorphous, fumed, crystalline free

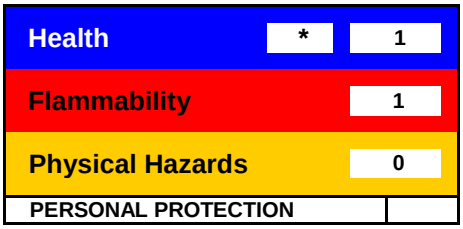
US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

Australia AICS:	q (quantity restricted)	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:	q (quantity restricted)	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. Taiwan inventory (CSNN):	n (Negative listing)	Remarks: None.

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: 06/07/2016

Revision Date: No data available.

Version #: 1.3

Further Information: No data available.

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 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.