SAFETY DATA SHEET

1. Identification

Product identifier: SFE 839

Other means of identification
Synonyms: Elastomer dispersion (volatile/gum gel blend)

Recommended use and restriction on use
Recommended use: Industrial use Component in personal care products
Restrictions on use: Not known.

: Momentive Performance Materials LLC
260 Hudson River Road
Waterford NY 12188

2. Hazard(s) identification

Hazard Classification

Physical Hazards
Flammable liquids Category 4

Health Hazards
Toxic to reproduction Category 2

Unknown toxicity - Health

| Acute toxicity, inhalation, vapor | 0 % |
| Acute toxicity, inhalation, dust or mist | 0 % |

Label Elements

Hazard Symbol:

Signal Word: Warning

Hazard Statement: H227; Combustible liquid.
H361; Suspected of damaging fertility or the unborn child.
Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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 exposed or concerned: Get medical advice/attention. In case of fire: Use … for extinction.

Storage: Store in a well-ventilated place. Keep cool. 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

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>0.1 - &lt;1%</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

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

4. First-aid measures

Ingestion: Do NOT induce vomiting. Do not give victim anything to drink if he is unconscious. Get medical attention.

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: Wash area with soap and water.

Eye contact: Rinse the eye with water immediately. Get medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed

Symptoms: None known.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed
5. Fire-fighting measures

General Fire Hazards: Use standard firefighting procedures and consider the hazards of other involved materials. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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:
- In case of fire, carbon monoxide and carbon dioxide may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:
- Combustible. Use water spray to keep fire-exposed containers cool. Do not empty into drains.

Special protective equipment for fire-fighters:
- Combustible. 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:
- Keep container closed. Avoid contact with eyes, skin, and clothing. Keep out of reach of children. Attention: Not for injection into humans. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up:
- Warn other workers of spill. Wear proper protective equipment as specified in the protective equipment section. Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal.

7. Handling and storage

Precautions for safe handling:
- Sensitivity to static discharge is expected; material has a flash point below 200 F.

Conditions for safe storage, including any incompatibilities:
- Keep away from heat, sparks and open flame. Store in original container.
8. Exposure controls/personal protection

Control Parameters

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>TWA</td>
<td>5 ppm</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

Eye wash facilities and emergency shower must be available when handling this product. Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

**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:** 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. Wash hands after handling. When using do not eat, drink or smoke.

9. Physical and chemical properties

**Appearance**

**Physical state:** liquid

**Form:** Gel

**Color:** Colorless

**Odor:** Faint

**Odor threshold:** No data available.

**pH:** not applicable

**Melting point/freezing point:** -44 °C

**Initial boiling point and boiling range:** 201 °C (1,013 hPa)
Flash Point: ca. 82 °C (Closed Cup)
Evaporation rate: Negligible
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.

Heat of combustion: No data available.

Vapor pressure: 1.00 hPa

Vapor density: No data available.
Density: ca. 0.956 g/cm³
Relative density: 0.959 (20 °C)

Solubility(ies)
- Solubility in water: Insoluble
- Solubility (other): Acetone Soluble

Partition coefficient (n-octanol/water) Log Pow: No data available.

Auto-ignition temperature: No data available.
Decomposition temperature: No decomposition if stored and applied as directed.
SADT: No data available.
Viscosity, dynamic: No data available.
Viscosity, kinematic: No data available.
VOC: ; not applicable

10. Stability and reactivity

Reactivity: No dangerous reaction if used as recommended.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid: Keep away from sources of ignition - No smoking.
Incompatible Materials: None known.
Hazardous Decomposition Products: Carbon Monoxide. Carbon dioxide 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: LD 50 (Rat, male and female): > 5,000 mg/kg
Specified substance(s): Octamethylcyclotetrasiloxane
LD 50 (Rat): 4,800 mg/kg

Dermal
Product: LD 50 (Rabbit, male and female): > 2,000 mg/kg
Specified substance(s): Octamethylcyclotetrasiloxane
LD 50 (Rat): > 2,400 mg/kg

Inhalation
Product: LC50 (Rat, ): > 41 mg/l
Specified substance(s): Octamethylcyclotetrasiloxane
LC50 (Rat): 36 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: (Rabbit): No skin irritation

Serious Eye Damage/Eye Irritation
Product: (Rabbit): No eye irritation

Respiratory or Skin Sensitization
Product: Magnusson-Kligmann (Guinea Pig): Did not cause sensitization on laboratory animals.

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

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): 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.

Aspiration Hazard
Product: No data available.
Other effects: Decamethylcyclopentasiloxane

Rodents repeatedly exposed to decamethylcyclopentasiloxane (D5) via inhalation or ingestion developed increased liver weights relative to unexposed control animals. When the exposure was stopped, livers returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Liver enlargement was due to an increase in metabolizing enzymes, and a temporary increase in the number and size of normal cells (hyperplasia and hypertrophy). These biochemical pathways are more sensitive in rodents than in humans. Inhalation exposures that are typical in industrial use (5-10 ppm) showed no toxic effects in rodents.

A two-year combined chronic toxicity and carcinogenicity inhalation study was conducted with decamethylcyclopentasiloxane (D5) in Fisher-344 rats by whole body inhalation. A statistically significant increase in the trend for uterine endometrial tumors was observed in female rats exposed for 24 months at the highest dose level of 160 ppm. The same effects were not seen at the other dose levels of 10 and 40 ppm. No adverse effects were seen at male rats at any level. Whether or not this increase in incidence is truly related to the exposure to D5 is questionable and yet to be determined. Based on our present knowledge, it is unlikely that industrial, commercial, or consumer uses of products containing D5 would result in a significant risk to humans. Momentive's Recommended Exposure Guideline for D5 is 10 ppm.

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage 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. 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.

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 - CO₂ in Sealed Vessels (Headspace Test)) Not readily biodegradable.

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
Octamethylcyclotetrasiloxane No data available.

Other adverse effects: No data available.

13. Disposal considerations

General information: The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground. See Section 8 for information on appropriate personal protective equipment.

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
UN Number: NA 1993
UN Proper Shipping Name: Combustible liquid, n.o.s. (Decamethylcyclopentasiloxane)
Transport Hazard Class(es) Class: CBL
Label(s): NONE
Packing Group: III
Marine Pollutant: No

IMDG
Not regulated.

IATA
Not regulated.

Special precautions for user: This product is Combustible as defined by the US Department of Transportation (DOT). It is regulated for transport in the US in container > 119 gallons. The product is not regulated for transport by the IATA, ADR/RID, ADNR or the IMDG regulations.

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):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Fire 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

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

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 regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act
Chemical Identity
Decamethylcyclopentasiloxane
Siloxanes and silicones di-Me, hydroxy terminated polymer with silsesquioxane and disilyethane
Dodecamethylcyclohexasiloxane
Octamethylcyclotetrasiloxane

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

US. Pennsylvania RTK - Hazardous Substances
No ingredient regulated by PA Right-to-Know Law present.

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Status</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia AICS</td>
<td>n (Negative listing)</td>
<td>None.</td>
</tr>
<tr>
<td>EU EINECS List</td>
<td>y (positive listing)</td>
<td>None.</td>
</tr>
<tr>
<td>Japan (ENCS) List</td>
<td>y (positive listing)</td>
<td>None.</td>
</tr>
<tr>
<td>China Inventory of Existing Chemical Substances</td>
<td>y (positive listing)</td>
<td>None.</td>
</tr>
<tr>
<td>Korea Existing Chemicals Inv. (KECI)</td>
<td>y (positive listing)</td>
<td>None.</td>
</tr>
<tr>
<td>Canada DSL Inventory List</td>
<td>q (quantity restricted)</td>
<td>None.</td>
</tr>
<tr>
<td>Canada NDSSL Inventory</td>
<td>n (Negative listing)</td>
<td>None.</td>
</tr>
<tr>
<td>Philippines PICCS</td>
<td>y (positive listing)</td>
<td>None.</td>
</tr>
<tr>
<td>US TSCA Inventory</td>
<td>e (special case)</td>
<td>Remarks: This product is intended only for personal care applications. It is not intended for industrial use; therefore, it is not subject to TSCA.</td>
</tr>
<tr>
<td>New Zealand Inventory of Chemicals</td>
<td>n (Negative listing)</td>
<td>None.</td>
</tr>
<tr>
<td>Taiwan. Taiwan inventory (CSNN)</td>
<td>y (positive listing)</td>
<td>None.</td>
</tr>
</tbody>
</table>

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

HMIS Hazard ID

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>2</td>
</tr>
<tr>
<td>Physical Hazards</td>
<td>0</td>
</tr>
</tbody>
</table>

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

Issue Date: 11/01/2017
Revision Date: No data available.
Version #: 3.0
Further Information: No data available.
Disclaimer: