

SAFETY DATA SHEET

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

1. PRODUCT AND COMPANY IDENTIFICATION

A. Product name: TSF451-0.65

B. Recommended use and restriction on use

Recommended use: Raw material for silicone elastomers Component in personal care products
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,
Geumcheon-gu, Seoul 153-715 Korea

Contact person : commercial.services@momentive.com

Telephone : +82-2-6201-4600
Telefax : +82-2-6201-4601

Emergency telephone number : +65-3158-1074 / +82-2-6201-4600

Responsible Department : Product Stewardship & Compliance

2. HAZARDS IDENTIFICATION

A. Hazard Classification

Physical Hazards

Flammable liquids Category 2

Environmental Hazards

Aquatic Toxicity (Acute) Category 1

Chronic hazards to the aquatic environment Category 2

B. Warning label items including precautionary statement

Pictogram



Signal Word: Danger

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Hazard Statement(s): H225: Highly flammable liquid and vapor.
H400: Very toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement

Prevention: P280: Wear protective gloves. P280: Wear eye protection/face protection.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241: Use explosion-proof electrical/ventilating/lighting/equipment. P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge. P233: Keep container tightly closed. P273: Avoid release to the environment.

Response: P391: Collect spillage. P303: IF ON SKIN (or hair): P361: Take off immediately all contaminated clothing. P353: Rinse skin with water/shower.

Storage: P403: Store in a well-ventilated place. P235: Keep cool.

Disposal: P501: 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.

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature: Silicone fluid
Chemical name Hexamethyldisiloxane
KECI No. KE-18607
CAS-No.: 107-46-0

Substance

Chemical Identity	CAS number	Concentration*
Hexamethyldisiloxane	107-46-0	90 - 100%

* 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 with plenty of water/...

C. In case of inhalation: "If inhaled, move victim to fresh air and seek medical attention."

D. In case of swallowing: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

E. Notes to the physician

Hazards No data available.

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Symptoms: No data available.

Treatment: No data available.

5. FIRE-FIGHTING MEASURES

General Fire Hazards: Remove sources of combustibles. Extinguish the fire using fire-fighting media listed above.

A. Extinguishing media

Suitable extinguishing media: Extinguish with foam, carbon dioxide or dry powder.

Unsuitable extinguishing media: No data available.

B. Special hazards arising from the substance or mixture: In case of fire, carbon monoxide and carbon dioxide may be formed.

C. Special fire fighting procedures: Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures. Explosion protection necessary.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures: Evacuate people on the leeward. Keep people away from the area. Remove sources of ignition. Wear proper protective equipment when in work. Work from the windward side. Put in an empty container for recovery after preventing spill by sand or sandbags, if the amount of spill is large. Put in an empty container for recovery after wiping or soaking up in an inert material, if the amount of spill is small

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

C. Methods and material for containment and cleaning up: Put in an empty container for recovery after preventing spill by sand or sandbags,if the amount of spill is large. Put in an empty container for recovery after wiping or soaking up in an inert material,if the amount of spill is small.

7. HANDLING AND STORAGE

A. Precautions for safe handling: Keep away from sources of ignition - No smoking.

B. Conditions for safe storage, including any incompatibilities: Store in a dark, cool place indoors, with container tightly closed.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

A. Exposure limit values, biological values, etc.

Occupational Exposure Limits

None of the components have assigned exposure limits.

B. Appropriate engineering controls: Well-ventilated area.

C. Personal protective equipment (ppe)

- Eye Protection** Safety glasses with side shields
- Hand Protection:** Rubber or plastics gloves
- Respiratory Protection:** Gas mask with organic vapor canister and dust and mist filter.
- Body protection** Wear rubber boots.
- Hygiene measures:** No data available.

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: not applicable

E. Melting point/freezing point -59 °C

F. Boiling point, initial boiling point, and boiling range 99 - 100 °C

G. Flash Point: -1 °C (Closed Cup)

H. Evaporation Rate: No data available.

I. Flammability (solid, gas): No data available.

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: No data available.

L. Vapor density (air=1): 5.5 Heavier than air

M. Density: 0.76 g/cm³ (25 °C)

N. Specific Gravity: No data available.

O. Solubility(ies)

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

P. Partition coefficient (n-octanol/water) No data available.

Log Pow:

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Q. Autoignition Temperature:	No data available.
R. Decomposition Temperature:	No decomposition up to the boiling point.
S. SADT:	No data available.
T. Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
U. Molecular weight:	No data available.

10. STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential:

Stability	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.

B. Conditions to avoid: Keep away from moisture. Heat or high temperature.

C. Incompatible Materials: The catalysis of strong acids or bases cause polymerization or decomposition.

D. Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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

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, male and female): > 5,000 mg/kg Not classified (Guinea Pig): 50,000 mg/kg

Specified substance(s)
Hexamethyldisiloxane LD 50 (Rat, No data available.): > 5,000 mg/kg (No data available.)

Dermal

Product: No data available.

Specified substance(s)
Hexamethyldisiloxane No data available.

Inhalation

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

Specified substance(s)
Hexamethyldisiloxane No data available.

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Repeated dose toxicity

Product: No data available.

Corrosivity or irritation to the skin:

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available. (Rabbit): No skin irritation

Serious Eye Damage/Eye Irritation:

Product: No data available.

Respiratory or Skin Sensitization:

Product: No data available.

Mutagenesis

In vitro

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

In vivo

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Other effects: No data available.

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12. ECOLOGICAL INFORMATION

General information: not applicable

A. Ecotoxicity

Acute hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane LC50 (Oncorhynchus mykiss, 96 h): 0.46 mg/l

Aquatic Invertebrates

Product: EC50 (Daphnia magna): > 314 mg/l

Chronic hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

Toxicity to Aquatic Plants

Product: ErC50 (Algae (Pseudokirchneriella subcapitata), 95 h): > 0.55 mg/l

B. Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Specified substance(s)

Hexamethyldisiloxane No data available.

C. Bioaccumulative Potential

Product: No data available.

D. Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Hexamethyldisiloxane No data available.

E. Other Adverse Effects: No data available.

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.

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- 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

UN Number: UN 1993
 UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.(Hexamethyldisiloxane)
 Transport Hazard Class(es): 3
 Subsidiary risk label: –
 Packing Group: II
 Label(s): 3
 Marine Pollutant: Environmentally hazardous
 EmS No.: F-E; S-E

IATA

UN Number: UN 1993
 Proper Shipping Name: Flammable liquid, n.o.s.(Hexamethyldisiloxane)
 Transport Hazard Class(es):
 Class: 3
 Label(s): 3
 Packing Group: II
 Cargo aircraft only Packing 364
 Instructions:
 Passenger and cargo aircraft Packing 364
 Instructions:
 Limited quantity: 1.00L
 Packing Instructions: Y341

 Excepted quantity E2

 Environmental Hazards: Not regulated.
 Marine Pollutant: No

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.

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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

Class 4, Group 1 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.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: On TSCA Inventory
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

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