SAFETY DATA SHEET

1. Chemical and company identification

Name of chemical (Product name) HIVAC-G

MANUFACTURER
COMPANY NAME Shin-Etsu Chemical Co., Ltd.
ADDRESS 13-1, Isobe 2-chome, Annaka-shi, Gunma 379-0195, JAPAN
CONTACT Quality Assurance Department (Gunma Complex)
TELEPHONE 027-385-2172
NUMBER
FAX NUMBER 027-385-2753

SUPPLIER
COMPANY NAME Shin-Etsu Chemical Co., Ltd.
ADDRESS 6-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo 100-0004, JAPAN
CONTACT Planning & Administration Department Silicone Division
TELEPHONE 03-3246-5121
NUMBER
FAX NUMBER 03-3246-5381
EMERGENCY 027-385-2172 (Holiday/ Nighttime: 027-385-2111)

Recommended use of the chemical and restrictions on use
Intended use Greases and fluid compounds
High vacuum seals
Restrictions on use Industrial use only.

2. Hazards identification

GHS classification
The product is not classified according to GHS.

3. Composition/information on ingredients

Substance or mixture Mixture
(Silicone mixture)

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>ENCS no.</th>
<th>ISHL no.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline free silica</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>15 - 20</td>
</tr>
</tbody>
</table>

All components are listed on ENCS under CSCL.

4. First aid measures

If inhaled Not applicable.
If on skin Wash skin with soap and water. Get medical attention if irritation develops and persists.
If in eyes Rinse immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
If swallowed Rinse mouth. Get medical attention immediately.
Notes to physician Treat symptomatically.

5. Fire-fighting measures

Extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Extinguishing media to avoid None known.
Specific hazards By heating and fire, harmful vapors/gases may be formed.
Special fire fighting procedures In the event of fire, cool tanks with water spray.
Protection of fire-fighters Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.
6. Accidental release measures

Personal precautions, protective equipment and emergency measures

Wear appropriate personal protective equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods or materials for containment and cleaning up

Eliminate sources of ignition. Collect spillage. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation)

Provide adequate ventilation.

Safe handling advice

Use care in handling/storage.

Contact avoidance measures

Refer to section 10: stability and reactivity.

Hygiene measures

Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Storage

Safe storage conditions

Keep container tightly closed. Store in a cool, dry place out of direct sunlight.

Safe packaging materials

Keep in original container.

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Engineering measures

Provide eyewash station.

Personal protective equipment

Respiratory protection

No personal respiratory protective equipment normally required.

Hand protection

Wear protective gloves.

Eye protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

No special protective equipment required.

9. Physical and chemical properties

Appearance

Form

Grease

Color

White.

Odor

Odorless

pH

Not available.

Melting point/Freezing point

Not applicable

Boiling point, initial boiling point, and boiling range

Not applicable

Flash point

> 212 °F (> 100 °C) Closed Cup

Auto-ignition temperature

> 572 °F (> 300 °C)

Flammability limit - lower (%)

No data

Flammability limit - upper (%)

No data

Vapor pressure

Negligible (25 °C)

Vapor density

Not applicable

Evaporation rate

Negligible (Butyl Acetate=1)

Specific gravity

1.03 (25 °C)

Solubility (Water)

Not soluble

Partition coefficient (n-octanol/water)

Not applicable

Decomposition temperature

Not available.
10. Stability and reactivity

**Reactivity**
The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability**
Stable at normal conditions.

**Possibility of hazardous reactions**
Hazardous polymerization does not occur.

**Conditions to avoid**
None specific.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous decomposition products**
Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product:
- Carbon oxides and traces of incompletely burned carbon compounds
- Silicon dioxide
- Formaldehyde

11. Toxicological information

**Acute toxicity**
None known.

12. Ecological information

**Ecotoxicity**
None known.

13. Disposal considerations

**Local disposal regulations**
Incinerate. Incinerator should be appropriately equipped for silica and other fine powder which the product will generate in incineration. Workers should wear appropriate personal protective equipment(s) such as respirator. Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. Transport information

**International regulations**

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
This product is not intended to be transported in bulk.

**National regulations**
Follow regulation in section 15 for domestic transportation.

15. Regulatory information

**Industrial Safety and Health Act**

**Specified substances regulation**

- **Class 1 designated chemical substances**
  Not regulated.
- **Class 2 designated chemical substances**
  Not regulated.
- **Class 3 designated chemical substances**
  Not regulated.

**Organic solvent regulation**

- **Class 1 organic solvents**
  Not regulated.
- **Class 2 organic solvents**
  Not regulated.
- **Class 3 organic solvents**
  Not regulated.

**Notifiable substances**

- **SILICA**
  15 - 20 %

**Labeling substances**

- **Not applicable**

**Poisonous and Deleterious Substances Control Act**

**Specified poisonous substances**

- Not regulated.

**Poisonous substances**

- Not regulated.
Deleterious substances
Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
Class I specified chemical substances
Not regulated.
Class II specified chemical substances
Not regulated.
Monitoring chemical substances
Not regulated.
Priority Assessment Chemical Substances (PACs)
Not regulated.

Law concerning Pollutant Release and Transfer Register
Specified class 1 substances (substance name, ordinance number and content)
Not applicable
Class 1 substances (substance name, ordinance number and content)
Not applicable
Class 2 substances (substance name, ordinance number and content)
Not applicable

Fire Service Act
Designated combustible material (Synthetic resins, others)

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule
Not regulated.

Air Law, Enforcement Rule
Not regulated.

Explosives Control Act
Not applicable.

High Pressure Gas Safety Act
Not applicable.

Act on Prevention of Marine Pollution and Maritime Disaster
Not applicable.

16. Other information

Bibliography
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
JIS Z 7252:2009 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”
JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS)
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012

This safety data sheet was prepared in accordance with JIS Z 7253:2012. This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.
This product has been designed, manufactured and developed solely for general industrial use only. This product is not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of this product for any application, to make preliminary tests, and to confirm the safety of this product for their use. Users must never use this product for the purpose of implantation into the human body and/or injection into humans.

Version number
01

Revision date
11-04-2014