SECTION 1. Identification of the substance/mixture and of the company

Product identifier
Name Used on Label : Thermal C5
Order-No. (5 Liter) : 8891403
Order-No. (10 Liter) : 8891402
Order-No. (55 Gal Drum) : 8891301
Company : JULABO U.S.A., INC
Manufactured for: 884 Marcon Blvd
ALLENTOWN, PA 18109 / U.S.A.
Phone : [+1] 610-231-0250
Fax : [+1] 610-231-0260
E-mail : info@julabo.com
Internet : www.julabo.com
Emergency Information : CHEMTREC 1-800-424-9300
Trade name : Polydimethylsiloxane
Recommended use : Industrial use only
Application : temperature control liquid
: working temperature range -60 °C - +110 °C

SECTION 2. Hazards identification

Physical hazards Not classified
Health hazards Not classified
Environmental hazards Not classified
OSHA defined hazards Not classified
*Hazards not stated here are “Not classified”, “Not applicable”, or “Classification not possible”

Label Elements
Hazard symbol None
Signal word None
Hazard statement Not available
Precautionary statement
Prevention Not available
Response Not available
Storage Not available
Disposal Not available
Hazard(s) not otherwise classified (HNOC) None known
Supplemental information None
HMIS Ratings: Health: 0 Flammability: 1 Physical hazard: 0

SECTION 3. Composition / information on ingredients

Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polydimethylsiloxane</td>
<td>63148-62-9</td>
<td>100</td>
</tr>
</tbody>
</table>

Dangerous components Not applicable

SECTION 4. First aid measures

Description of first aid measures
General information: No special measures required
Inhalation Supply fresh air; consult doctor in case of complaints.
Skin contact Wash skin with soap and water
JULABO USA, Inc. www.julabo.com
Eye contact: Rinse immediately with plenty of water for at least 15 minutes.

Ingestion: Rinse mouth. Get medical attention immediately.

Most important symptoms/effects, acute and delayed: Not available

Indication of immediate medical attention and special treatment needed: Treat symptomatically.

SECTION 5. Firefighting measures

**Flash point:** >214 °F / >101.1 °C (Closed Cup)

**Autoignition temperature:** >752 °F / >400 °C

**Flammability Limits in Air:** Not determined

**Suitable extinguishing media**

**Unsuitable extinguishing media**
Water with full jet

**Specific hazards arising from the chemical**
By heating and fire, harmful vapors / gases may be formed.

**Special protective equipment and precautions for firefighters**
Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.

**Fire-fighting equipment / Instructions**
Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

SECTION 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Wear appropriate personal protective equipment. Particular danger of slipping on leaked / spilled product.

**Environmental precautions**
Do not allow product to reach sewage system or any water course.

**Methods and material for containment and cleaning up**
Absorb with liquid-binding material (sand, diatomaceous earth, sawdust, acid binders, universal binders).

SECTION 7. Handling and storage

**Precautions for safe handling**
Keep receptacles tightly sealed. Do not breathe mist or vapor. Provide adequate ventilation.

**Information about fire - and explosion protection**
No special measures required

**Conditions for safe storage, including any incompatibilities**
Store in a cool, dry place out of direct sunlight. Keep in original container.

**Storage class:** VCI: 10

**Specific end use(s):** No additional information available.

SECTION 8. Exposure controls / personal protection

**Occupational exposure limits**
No exposure limits noted for ingredient(s).

**Biological limit values**
No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**
Provide eyewash station

**Individual protection measures, such as personal protective equipment**

- **Eye/face protection**
  Use proper protection – safety glasses as a minimum

- **Skin protection**
  - **Hand protection**
    Wear protective gloves
  - **Other**
    No special protective equipment required

- **Respiratory protection**
  If ventilation is insufficient when heating use chemical respirator with organic vapor cartridge.

- **Thermal hazards**
  Not available

**General hygiene considerations**
Wash hands before breaks and immediately after handling product. Handle in accordance with good industrial hygiene and safety practice. This product can generate formaldehyde at approximately 150 °C (300 °F) and above in the presence of air. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential cancer hazard. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

SECTION 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Density</td>
<td>0.915 (@ 25 °C)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>5 cSt (@ 25 °C)</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing / melting point</td>
<td>Not available</td>
</tr>
<tr>
<td>Initial boiling point / boiling range</td>
<td>&gt;205 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;214 °F / &gt;101 °C (Closed Cup)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt;752 °F / &gt;400 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Volatile content</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper / lower flammability or explosive limits</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limit – lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limit – upper (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit – lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit – upper (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Insoluble</td>
</tr>
</tbody>
</table>

Above information is not intended for use in preparing product specifications.

SECTION 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Product stable and non-reactive under normal conditions of use, storage and transport.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable at normal conditions</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Strong oxidizing agents.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Thermal decomposition of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon Dioxide. Formaldehyde.</td>
</tr>
</tbody>
</table>

SECTION 11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on likely routes of exposure</td>
<td>Not available</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not available</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Not available</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Not available</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Contact of the product with the human eye may result in a harmless and reversible clouding of sight which is of short duration, caused by formation of an oil film on the cornea.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on toxicological effects</td>
<td>LD50, oral, rat &gt;5000 mg/kg</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>LC50, inhalation, rat &gt;535 mg/kg (1 h, Aerosol)</td>
</tr>
</tbody>
</table>
Skin corrosion / irritation | Not available
Serious eye damage / eye irritation | Contact of the product with the human eye may result in a harmless and reversible clouding of sight which is of short duration, caused by formation of an oil film on the cornea.
Respiratory or skin sensitization
   Respiratory sensitization | Not available
   Skin sensitization | Not available
Germ cell mutagenicity | Not available
Carcinogenicity
Reproductive toxicity | Not available
Specific target organ toxicity – single exposure | Not available
Specific target organ toxicity – repeated exposure | Not available
Aspiration hazard | Not available
Further information | When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

SECTION 12. Ecological information
Toxicity
   Aquatic toxicity
      LC0, 96 h, 200 mg/l, Leuciscus idus
      EC0, > 10,000 mg/l Pseudomonas putida
Persistence and degradability | Not available
Bioaccumulative potential | Not available
Mobility in soil | Not available
Other adverse effects | Not available

SECTION 13. Disposal considerations
Disposal instructions | Follow applicable Federal, State and Local regulations

SECTION 14. Transport information
DOT | Not regulated as dangerous goods.
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 | Not applicable
Transport / Additional information | Not dangerous according to the above specifications

SECTION 15. Regulatory information
US Federal regulations
Superfund Amendments and Reauthorization Act of 1986 (SARA)
   SARA 313 (TRI reporting) | None present or not present in regulated quantities.
DOT Road Shipment Information (49 CFR 172.101) | Not subject to DOT.
Ocean Shipment (IMDG) | Not subject to IMDG code.
Air Shipment (IATA) | Not subject to IATA regulations
US state regulations

Massachusetts RTK – Substance List
Not regulated

New Jersey Worker and Community Right-to-Know Law
CAS Number [63148-62-9] >60 wt% Polydimethylsiloxane

Pennsylvania Worker and Community Right-to-Know Law
CAS Number [63148-62-9] >60 wt% Polydimethylsiloxane

Rhode Island RTK
Not regulated

California Proposition 65
None known

International Inventories

<table>
<thead>
<tr>
<th>Polydimethylsiloxane [63148-62-9]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td>Listed on the Japanese ENCS (Existing * New Chemical Substances) inventory</td>
</tr>
<tr>
<td>Listed on the Canadian Domestic Substances List (DSL)</td>
</tr>
<tr>
<td>Listed on KECI (Korean Existing Chemicals Inventory)</td>
</tr>
<tr>
<td>Listed on USA Toxic Substances Control Act (TSCA)</td>
</tr>
<tr>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
</tr>
<tr>
<td>Listed on NZIoC (New Zealand Inventory of Chemicals)</td>
</tr>
<tr>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
</tbody>
</table>

SECTION 16. Other information

This document was created on 5 May 2015.

NFCP ratings

Health: 0 – Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

Flammability: 1 – Must be preheated before ignition can occur

Instability: 0 - Normally stable, even under fire exposure conditions, and not reactive with water.

DISCLAIMER

Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and are accurate and reliable to the best of our knowledge and belief but are not guaranteed to be so. We make no warranty as to the results to be obtained in using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us. All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, JULABO USA, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.