1. IDENTIFICATION

Product Identifier
Product Name Thermaflo® LH

Other means of identification
SDS # CG-008

Synonyms Heat Transfer Fluid.

Recommended use of the chemical and restrictions on use
Recommended Use Heat transfer fluid.

Details of the supplier of the safety data sheet
Supplier Address ORG Chem Group, LLC
2406 Lynch Road
Evansville, IN 47711
www.chem-group.com

Emergency Telephone Number
Company Phone Number Non ER questions 800-489-2306 / 812-464-4446
Emergency Telephone (24 hr) Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Colorless liquid
Physical State Liquid
Odor Very faint

Classification

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspiration toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Hazards Not Otherwise Classified (HNOC)
May be harmful if swallowed
May be harmful in contact with skin

Signal Word
Danger

Hazard Statements
Causes skin irritation
May be fatal if swallowed and enters airways
Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

An improperly designed or maintained heat transfer system may permit the release of fluid, or air/moisture leakage into the system. This leakage could lower the fluid’s flashpoint and/or produce light ends. System leaks that result in saturated insulation may, when heated over time, create a combustible mixture when suddenly exposed to air. Leakage of fluid from the system at operating temperature and pressure may cause fluid to disperse as an aerosol, which may result in flammable concentrations of vapor in the air. Thermal degradation or other decomposition of the fluid can occur in an improperly maintained heat transfer system, and also for other reasons, including operating the system above the fluid’s recommended operating temperature and failure to maintain proper fluid velocity. Degradation or decomposition of the fluid may also create “low boiler” hydrocarbon compounds or light ends. The occurrence of any of the foregoing conditions may lead to an increased risk of explosion and/or fire.

Precautionary Statements - Response
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash it before reuse
If skin irritation occurs: Get medical advice/attention
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do not induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
May cause long lasting harmful effects to aquatic life
Unknown Acute Toxicity
1% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyltoluene</td>
<td>27776-01-8</td>
<td>99-100</td>
</tr>
<tr>
<td>Dibenzyltoluene</td>
<td>26898-17-9</td>
<td>&lt;= 1.0</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST-AID MEASURES

First Aid Measures

General Advice
Provide this SDS to medical personnel for treatment.
**Eye Contact**
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Skin Contact**
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

**Inhalation**
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

**Ingestion**
Call a physician immediately. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek medical attention immediately.

### Most important symptoms and effects

**Symptoms**
Aspiration may occur during swallowing or vomiting and cause lung damage. Causes skin irritation. May cause respiratory irritation. Eye contact may be slightly irritating.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Water spray, dry powder, foam, or carbon dioxide (CO2).

**Unsuitable Extinguishing Media**
Do not scatter spilled material with high pressure water streams.

**Specific Hazards Arising from the Chemical**
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Hazardous Combustion Products**
Toxic fumes may be released.

**Sensitivity to Mechanical Impact**
None.

**Sensitivity to Static Discharge**
None.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**
Ensure adequate ventilation, especially in confined areas.

**Environmental Precautions**
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Collect spillage.

**Methods and material for containment and cleaning up**

**Methods for Containment**
Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up**
Dike far ahead of liquid spill for later disposal. Absorb with inert material or sweep up, and then place in suitable container for chemical waste.
7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling
Wash face, hands, and any exposed skin thoroughly after handling. Use personal protection recommended in Section 8. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. During use at elevated temperatures thermal decomposition leads to the formation of low-boiling and high-boiling secondary products with potentially flammable properties. When flammable liquids are concentrated and collected appropriate risk management measures must be applied. Risk management measures for flammable liquids are at least: Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Keep container away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Wear protective gloves/protective clothing/eye protection/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up.

Packaging Materials
Steel or stainless steel.

Incompatible Materials
Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
No exposure limits noted for ingredient(s) The following information is given as general guidance

Appropriate engineering controls

Engineering Controls
Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Safety goggles.

Skin and Body Protection
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection
Respiratory protection is not required except in emergencies or when conditions cause excessive airborne levels, mist, or vapors. Select the appropriate approved organic vapor air-purifying respirator, self-contained breathing apparatus, or air supplied respirators in situations where there may be potential for overexposure.

General Hygiene Considerations
Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.
9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Colorless liquid</td>
<td></td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Melting Point/Freezing Point</strong></td>
<td>-70 - (-80) °C / -94 - (-112) °F</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling Point/Boiling Range</strong></td>
<td>280 - 290 °C / 536 - 554 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>137 °C / 278.6 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (Solid, Gas)</strong></td>
<td>Liquid-not applicable</td>
<td></td>
</tr>
<tr>
<td><strong>Upper Flammability Limits</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Lower Flammability Limit</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>&lt;0.01 hPa; 20°C</td>
<td>@ 20°C (68°F)</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>0.993 g/cm³</td>
<td>@ 20°C (68°F)</td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>&lt;0.1 mg/l</td>
<td>@ 20°C (68°F)</td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Partition Coefficient</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Auto-ignition Temperature</strong></td>
<td>Not auto flammable</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Kinematic Viscosity</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic Viscosity</strong></td>
<td>4.0 mm²/s; 20°C; 2.6 mm²/s 40°C</td>
<td></td>
</tr>
<tr>
<td><strong>Explosive Properties</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing Properties</strong></td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Reactivity**
Not reactive under normal conditions.

**Chemical Stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

- **Hazardous Polymerization**: Hazardous polymerization does not occur.

**Conditions to Avoid**
Extremes of temperature and direct sunlight.

**Incompatible Materials**
Strong oxidizing agents.

**Hazardous Decomposition Products**
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

**Eye Contact**
May cause slight irritation.
Skin Contact
Causes skin irritation. May be harmful in contact with skin.

Inhalation
Avoid breathing vapors or mists.

Ingestion
May be harmful if swallowed. May be fatal if swallowed and enters airways.

Component Information

<table>
<thead>
<tr>
<th>Component Information</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>Oral LD50</td>
<td>Dermal LD50</td>
<td>Inhalation LC50</td>
</tr>
<tr>
<td>Benzytoluene 27776-01-8</td>
<td>3015 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on physical, chemical and toxicological effects

Symptoms
Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity
Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Aspiration hazard
May be fatal if swallowed and enters airways.

Numerical measures of toxicity
Not determined

Unknown Acute Toxicity
1% of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
May cause long lasting harmful effects to aquatic life.

Component Information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzytoluene 27776-01-8</td>
<td>3.5: 48 h Brachydanio rerio mg/L LC50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence/Degradability
This product is biodegradable.

Bioaccumulation
Not determined.

Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzytoluene 27776-01-8</td>
<td>4.35</td>
</tr>
</tbody>
</table>

Other Adverse Effects
Not determined
13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes  Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging  Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note  Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT  Not regulated

IATA  Not regulated

IMDG  Marine Pollutant  This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzylltoluene</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Dibenzyltoluene</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>X</td>
<td>Present</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

US Federal Regulations

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

US State Regulations

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations
This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 13-Nov-2014  
Revision Date: 6-Jul-2018  
Revision Note: Product Name updated

Disclaimer
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.

End of Safety Data Sheet