# Safety Data Sheet

**Issue Date:** 13-Nov-2014 **Revision Date:** 4-Jan-2018 **Version** 3

## 1. IDENTIFICATION

**Product Identifier**
**Product Name** Thermaflo ® G

**Other means of identification**
**SDS #** CG-012

**Synonyms**

**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** light yellow liquid to amber liquid **Physical State** Liquid **Odor** Mild

**Classification**

| | |
|---|---|
| Serious eye damage/eye irritation | Category 2 |

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

**Signal Word**
**Warning**

**Hazard Statements**
Causes serious eye irritation

**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 IN EYES: 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
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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**
Very toxic to aquatic life with long lasting effects
**Unknown Acute Toxicity**
50% of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|---|---|---|
| Diphenyl Oxide | 101-84-8 | 40-45 |
| 1,2,3,4-Tetrahydro-6-(1-phenyl)naphthalene | 6196-98-1 | <60 |
| 1,2,3,4-Tetrahydro-5-(1-phenyl)naphthalene | 60466-61-7 | <60 |

**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. Never give anything by mouth to an unconscious person. |

**Most important symptoms and effects**

| | |
|---|---|
| **Symptoms** | May cause eye, skin and respiratory tract irritation. |

**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.

**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. See Section 12 for additional Ecological Information. |

**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. Avoid contact with skin, eyes or clothing.

**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.

**Incompatible Materials** Strong oxidizing agents. Chlorates. Nitrates. Peroxides.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Diphenyl Oxide<br>101-84-8 | STEL: 2 ppm vapor<br>TWA: 1 ppm vapor | TWA: 1 ppm vapor<br>TWA: 7 mg/m$^3$ vapor<br>(vacated) TWA: 1 ppm vapor<br>(vacated) TWA: 7 mg/m$^3$ vapor | IDLH: 100 ppm vapor<br>TWA: 1 ppm vapor<br>TWA: 7 mg/m$^3$ vapor |

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Maintain eye wash fountain and quick-drench facilities in work area.

**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**

| | | | |
|---|---|---|---|
| **Physical State** | Liquid | | |
| **Appearance** | Clear to light yellow liquid | **Odor** | Mild |
| **Color** | Clear to light yellow | **Odor Threshold** | Not determined |
| **Property** | **Values** | **Remarks • Method** | |
| **pH** | Not determined | | |
| **Melting Point/Freezing Point** | Not determined | | |
| **Boiling Point/Boiling Range** | 288.3 / 550.9 deg F | Literature | |
| **Flash Point** | 130 deg C (266 deg F | COC | |
| **Evaporation Rate** | <0.1 Estimated | | |
| **Flammability (Solid, Gas)** | Liquid-not applicable | | |
| **Upper Flammability Limits** | 8.5% @500F | | |
| **Lower Flammability Limit** | 0.9% @300F, 1.2% @400F | | |
| **Vapor Pressure** | < 1.0 mmHg | @ 20°C (68°F) | |
| **Vapor Density** | > 1.0 | (Air=1) | |

| | | |
|---|---|---|
| **Specific Gravity** | 1.040-1.050 | @ 25 °C (77 °F) |
| **Water Solubility** | 0.06 ppm | @ 25 °C (77 °F) |
| **Solubility in other solvents** | Not determined | |
| **Partition Coefficient** | Not determined | |
| **Auto-ignition Temperature** | 396.11 °C / 745 °F | |
| **Decomposition Temperature** | Not determined | |
| **Kinematic Viscosity** | Not determined | |
| **Dynamic Viscosity** | 8 cSt | @ 40°C (104°F) |
| **Explosive Properties** | Not determined | |
| **Oxidizing Properties** | Not determined | |

## 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**
Keep out of reach of children.

**Incompatible Materials**
Strong oxidizing agents. Chlorates. Nitrates. Peroxides.

**Hazardous Decomposition Products**
Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Eye Contact** Causes serious eye irritation.

**Skin Contact** Prolonged contact may cause redness and irritation. May be harmful in contact with skin.

**Inhalation** Avoid breathing vapors or mists.

**Ingestion** May be harmful if swallowed.

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Diphenyl Oxide<br>101-84-8 | = 2450 mg/kg ( Rat ) | > 5000 mg/kg ( Rabbit ) | - |

**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.

**Numerical measures of toxicity**
Not determined

**Unknown Acute Toxicity** 50% of the mixture consists of ingredient(s) of unknown toxicity.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Very toxic to aquatic life with long lasting effects.

**Component Information**

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Diphenyl Oxide 101-84-8 | | 4: 96 h Pimephales promelas mg/L LC50 flow-through 4 - 7.9: 96 h Pimephales promelas mg/L LC50 static | | 0.11 - 1.1: 48 h Daphnia magna mg/L LC50 |

**Persistence/Degradability**
Not determined.

**Bioaccumulation**
Not determined.

**Mobility**

| Chemical Name | Partition Coefficient |
|---|---|
| Diphenyl Oxide 101-84-8 | 4.24 |

**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**

| Chemical Name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---|---|---|---|---|---|---|---|---|---|---|
| Diphenyl Oxide | Present | X | | Present | | Present | X | Present | X | X |

**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

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Diphenyl Oxide<br>101-84-8 | X | X | X |

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health Hazards** | **Flammability** | **Instability** | **Special Hazards** |
| | 1 | 1 | 0 | Not determined |
| **HMIS** | **Health Hazards** | **Flammability** | **Physical Hazards** | **Personal Protection** |
| | 1 | 1 | 0 | Not determined |

**Issue Date:** 13-Nov-2014
**Revision Date:** 4-Jan-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**