SAFETY DATA SHEET

SDS: 4046

4046 H1 QUINPLEX® SYNTHETIC FOOD GRADE OIL

Issuing Date 04-24-2012  Revision Date 05-09-2017  Revision Number 4.2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product Name 4046 H1 QUINPLEX® SYNTHETIC FOOD GRADE OIL

Other means of identification
Synonyms No information available

Recommended use of the chemical and restrictions on use

Identified uses Lubricant

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer
Lubrication Engineers Inc.
1919 E. Tulsa
Wichita, KS 67216
USA
800-537-7683

Emergency Telephone Number
CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)
CHEMTREC: 1-800-424-9300 (NORTH AMERICA)
+1-703-527-3887 (INTERNATIONAL)
2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements

<table>
<thead>
<tr>
<th>Emergency Overview</th>
<th>Signal Word</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

The product contains no substances which at their given concentration, are considered to be hazardous to health

appearance colorless Physical state liquid Odor Hydrocarbon-like

Precautionary Statements - Prevention
None.
Response
None.
Eyes
None.
Skin
None.
Inhalation
None.
Ingestion
None.
Fire
None.
Spill
None.
Storage
None.
Disposal
None.

Hazards not otherwise classified (HNOC)
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

The producer of "4046" declares that it contains less than 3% DMSO extractable material by IP-346
4. FIRST AID MEASURES

First Aid Measures

General Advice
If symptoms develop move victim to fresh air. Show this safety data sheet to the doctor in attendance.

Eye Contact
Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

Skin Contact
Immediate medical attention is not required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water.

Inhalation
Immediate medical attention is not required. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms develop move victim to fresh air.

Ingestion
Drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician. Clean mouth with water.

Protection of First-aiders
Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Symptoms
None known.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point
276 °C / 530 °F

Suitable Extinguishing Media
Water spray, Carbon dioxide (CO2), Foam, Dry chemical

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire.

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

Explosion Data
Sensitivity to Mechanical Impact Not impact sensitive.
Sensitivity to Static Discharge May be ignited by friction, heat, sparks or flames.

Protective Equipment and Precautions for Firefighters
Wear self-contained breathing apparatus and protective suit.

NFPA
Health hazard 1  Flammability 1  Stability 1

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate
personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental Precautions**

Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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

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

**Methods for Cleaning up** Use personal protective equipment. Dam up. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

### 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Prevent vapor buildup by providing adequate ventilation during and after use.

**Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions** Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**Incompatible products.** Strong oxidizing agents. Strong acids. Strong bases.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenylamine</td>
<td>TWA: 10 mg/m³</td>
<td>(vacated) TWA: 10 mg/m³</td>
<td>TWA: 10 mg/m³</td>
</tr>
<tr>
<td>122-39-4</td>
<td>STEL: 15 ppm</td>
<td>TWA: 5 ppm</td>
<td></td>
</tr>
<tr>
<td>Ethyl acrylate</td>
<td>STEL: 15 ppm</td>
<td>TWA: 5 ppm</td>
<td>IDLH: 300 ppm</td>
</tr>
<tr>
<td>140-88-5</td>
<td>TWA: 25 ppm</td>
<td>TWA: 100 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(vacated) TWA: 5 ppm</td>
<td>(vacated) TWA: 20 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(vacated) STEL: 25 ppm</td>
<td>(vacated) STEL: 100 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) S*/S*</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

**Engineering Measures** Showers
Eyewash stations
Ventilation systems.

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

**Eye/Face Protection** Tightly fitting safety goggles. Face-shield.
Skin and Body Protection: Long sleeved clothing. Protective gloves.

Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures: When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>appearance</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Hydrocarbon-like</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 8</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>276 °C / 530 °F</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>&lt; 1 ( Air = 1 )</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.84</td>
</tr>
<tr>
<td>Water solubility</td>
<td>negligible</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>46.23 cSt @ 40°C</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

reactivity: No information available

Chemical stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: None under normal processing.

Conditions to Avoid: Heat, flames and sparks. Contact with other chemicals


Hazardous Decomposition Products: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Product Information: Product does not present an acute toxicity hazard based on known or supplied information

Inhalation: May cause irritation of respiratory tract.

Eye Contact: Contact with eyes may cause irritation.
Skin Contact  May cause irritation.

Ingestion  There is no data available for this product.

Component Information  No information available

Information on toxicological effects

Symptoms  No information available.

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

The producer of “4046” declares that it contains less than 3% DMSO extractable material by IP-346

Sensitization  No information available.

Mutagenic Effects  No information available.

Carcinogenicity  No information available.

Reproductive toxicity  No information available.

Chronic Toxicity  Avoid repeated exposure.
Target Organ Effects  Respiratory system, Eyes, Skin.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.

| ATEmix (oral) | 10145 mg/kg |
| ATEmix (dermal) | 10145 mg/kg |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and Degradability  No information available.

Bioaccumulation

Mobility  The product is insoluble and floats on water.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkylated Diphenylamines 6683-19-8</td>
<td>23</td>
</tr>
<tr>
<td>benzoic acid 65-85-0</td>
<td>1.9</td>
</tr>
<tr>
<td>2-Ethylhexyl acrylate 103-11-7</td>
<td>4.64</td>
</tr>
<tr>
<td>Diphenylamine 122-39-4</td>
<td>3.4</td>
</tr>
</tbody>
</table>
Ethyl acrylate 140-88-5

Other Adverse Effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods
Should not be released into the environment. Dispose of in accordance with local regulations.

Contaminated Packaging
Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenylamine 122-39-4</td>
<td></td>
<td>Included in waste streams: F039, K083, K104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethyl acrylate 140-88-5</td>
<td></td>
<td></td>
<td></td>
<td>ignitable waste</td>
</tr>
</tbody>
</table>

This product contains one or more substances that are listed with the State of California as a hazardous waste

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenylamine 122-39-4</td>
<td>Toxic</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>NDSL</td>
<td>Not determined</td>
</tr>
<tr>
<td>EINECS</td>
<td>Not determined</td>
</tr>
<tr>
<td>ELINCS</td>
<td>Not determined</td>
</tr>
<tr>
<td>ENCS</td>
<td>Not determined</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Not determined</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

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

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl acrylate - 140-88-5</td>
<td>140-88-5</td>
<td>0.00065</td>
<td>0.1</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- **Acute Health Hazard**: Yes
- **Chronic Health Hazard**: No
- **Fire Hazard**: No
- **Sudden Release of Pressure Hazard**: No
- **Reactive Hazard**: No

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzoic acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>65-85-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzoic acid</td>
<td>5000 lb</td>
<td>-</td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>65-85-0</td>
<td></td>
<td></td>
<td>RQ 2270 kg final RQ</td>
</tr>
<tr>
<td>Ethyl acrylate</td>
<td>1000 lb</td>
<td>-</td>
<td>RQ 1000 lb final RQ</td>
</tr>
<tr>
<td>140-88-5</td>
<td></td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl acrylate - 140-88-5</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION
SDS: 4046

4046 H1 QUINPLEX® SYNTHETIC FOOD
GRADE OIL

Issuing Date 04-24-2012  Revision Date 05-09-2017  Revision Number 4.2

Issuing Date 04-24-2012
Revision Date 05-09-2017
Reason for revision Update to Format.

Disclaimer
The information provided in this Material 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.

SDS is available at www.LElubricants.com

End of Safety Data Sheet