Safety Data Sheet

This safety data sheet complies with the requirements of: 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Product name  LFP

1. Identification

1.1. Product Identifier
Product name  LFP

1.2. Other means of identification
Product code  446926
Synonyms  None
Chemical Family  No information available

1.3. Recommended use of the chemical and restrictions on use
Recommended use  No information available.
Uses advised against  Consumer use.

1.4. Details of the Supplier of the Safety Data Sheet
Company Name  Johnson Controls
1400 Pennbrook Parkway
Lansdale, PA 19446
Contact point  Product Stewardship at 1-715-735-7411
E-mail address  psra@tycofp.com

1.5. Emergency Telephone Number
Emergency telephone  CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazards Identification

Classification
This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.2. Label Elements

Hazard Statements

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

Precautionary Statements

2.3. Hazards Not Otherwise Classified (HNOC)
Not Applicable.

2.4. Other Information

Revision date  28-Mar-2018  Version  7
3. Composition/information on Ingredients

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

4. First aid measures

4.1. Description of first aid measures
Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact
Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation
Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.).

Ingestion
Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed
Symptoms
No information available.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
Note to physicians
Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Unsuitable Extinguishing Media
None.

5.3. Specific Hazards Arising from the Chemical
No information available.

5.4. Explosion Data
Sensitivity to Mechanical Impact
None.
Sensitivity to Static Discharge
None.
5.5. 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

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions
Ensure adequate ventilation, especially in confined areas.

For emergency responders
Use personal protection recommended in Section 8.

6.2. Environmental Precautions

Environmental Precautions
See Section 12 for additional Ecological Information.

6.3. 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
Pick up and transfer to properly labeled containers.

7. Handling and Storage

7.1. Precautions for Safe Handling

Advice on safe handling
Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials

8. Exposure Controls/Personal Protection

8.1. Control Parameters

Exposure guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2. Appropriate Engineering Controls

Engineering controls
Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection
Avoid contact with eyes. Tight sealing safety goggles.

Skin and Body Protection
Wear protective gloves and protective clothing.
Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Ventilation

Use local exhaust or general dilution ventilation to control exposure with applicable limits.

8.4. General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. 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>Odor</strong></td>
<td>Slight</td>
<td></td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>7 - 8</td>
<td></td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>-24 °C / -11 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point / boiling range</strong></td>
<td>120 °C / 248 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability limit in air</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Specific gravity</strong></td>
<td>1.122 - 1.129</td>
<td></td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in Other Solvents</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>&lt; -2.04</td>
<td></td>
</tr>
<tr>
<td><strong>Autoignition Temperature</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td><strong>Kinematic viscosity</strong></td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

10.1. Chemical Stability

Stable under recommended storage conditions.

10.2. Reactivity

No data available

10.3. Possibility of hazardous reactions

None under normal processing.
Hazardous Polymerization
Hazardous polymerization does not occur.

10.4. Conditions to Avoid
Protect from direct sunlight.

10.5. Incompatible Materials

10.6. Hazardous decomposition products
Carbon oxides. Nitrogen oxides (NOx).

11. Toxicological Information

11.1. Information on Likely Routes of Exposure

Product information
No data available

Inhalation
No data available.

Eye Contact
No data available.

Skin contact
No data available.

Ingestion
No data available.

Component Information
Acute Toxicity

11.2. Information on Toxicological Effects

Symptoms
No information available.

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

Product information

<table>
<thead>
<tr>
<th>Method</th>
<th>species</th>
<th>Exposure Route</th>
<th>Effective dose</th>
<th>Exposure time</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 403: Acute Inhalation Toxicity</td>
<td>Rat</td>
<td></td>
<td></td>
<td></td>
<td>LD50 2.12 mg/l</td>
</tr>
<tr>
<td>OECD Test No. 425: Acute Oral Toxicity: Up-and-Down Procedure</td>
<td>Rat</td>
<td></td>
<td></td>
<td></td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>OECD Test No. 402: Acute Dermal Toxicity</td>
<td>Rat</td>
<td></td>
<td></td>
<td></td>
<td>LD50 &gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

Product information

<table>
<thead>
<tr>
<th>Method</th>
<th>species</th>
<th>Exposure Route</th>
<th>Effective dose</th>
<th>Exposure time</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 405: Acute Eye Irritation/Corrosion</td>
<td>Rabbit</td>
<td>eye</td>
<td></td>
<td></td>
<td>Mild eye irritation</td>
</tr>
</tbody>
</table>
### Product Information

<table>
<thead>
<tr>
<th>Method</th>
<th>Exposure Route</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 406: Skin Sensitization</td>
<td>guinea pig</td>
<td>Not a skin sensitizer</td>
</tr>
</tbody>
</table>

### Carcinogenicity

No information available.

### Reproductive Toxicity

No information available.

### STOT - Single Exposure

No information available.

### STOT - Repeated Exposure

No information available.

### Target organ effects

Eyes, Kidney, Respiratory System, Skin.

### Aspiration Hazard

No information available.

### 11.4. Numerical Measures of Toxicity - Product Information

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

### 12. Ecological Information

#### 12.1. Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td>-</td>
<td>LC50 (96h) static 51 - 57 mL/L</td>
<td>EC50 (24h) &gt; 500 mg/L Daphnia magna</td>
</tr>
<tr>
<td>Potassium Acetate 127-09-2</td>
<td>-</td>
<td>LC50 (96h) semi-static = 6800 mg/L</td>
<td>EC50 (24h) = 7170 mg/L Daphnia magna</td>
</tr>
<tr>
<td>Triethanolamine 102-71-6</td>
<td>EC50 (72h) = 216 mg/L</td>
<td>LC50 (96h) static 450 - 1000 mg/L</td>
<td>EC50 (24h) = 1386 mg/L Daphnia magna</td>
</tr>
<tr>
<td></td>
<td>Desmodesmus subspicatus</td>
<td>LC50 (96h) static &gt; 1000 mg/L Pimephales promelas LC50 (96h) flow-through 10600 - 13000 mg/L Pimephales promelas</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lepomis macrochirus LC50 (96h) static</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desmodesmus subspicatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Lepomis macrochirus LC50 (96h) static</td>
<td></td>
</tr>
<tr>
<td>Sodium Citrate 68-04-2</td>
<td>EC50 (96h) 18000 - 32000 mg/L Chlorella vulgaris</td>
<td>LC50 (96h) 18000 - 32000 mg/L Pocellia reticulata</td>
<td>EC50 (48h) 5600 - 10000 mg/L Daphnia magna</td>
</tr>
<tr>
<td>Diethanolamine 111-42-2</td>
<td>EC50 (72h) = 7.8 mg/L Desmodesmus subspicatus</td>
<td>LC50 (96h) flow-through 4460 - 4980 mg/L Pimephales promelas LC50 (96h) static 1200 - 1580 mg/L Pimephales promelas LC50 (96h) static 600 - 1000 mg/L Lepomis macrochirus</td>
<td>EC50 (48h) = 55 mg/L Daphnia magna</td>
</tr>
<tr>
<td></td>
<td>Pseudokirchneriella subcapitata</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Concentrate

<table>
<thead>
<tr>
<th>Method</th>
<th>OECD Test No. 203: Fish, Acute Toxicity Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
</tr>
<tr>
<td>Endpoint type</td>
<td>LC50</td>
</tr>
<tr>
<td>Exposure time</td>
<td>96h</td>
</tr>
<tr>
<td>Results</td>
<td>&gt; 100 mg/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>Acute Toxicity Daphnia magna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Daphnia magna</td>
</tr>
</tbody>
</table>
12.2. Persistence and Degradability
No information available.

Chemical Oxygen Demand (mg/L)
Biodegradability (B.O.D./C.O.D.) 268/431

12.3. Bioaccumulation
No information available.

12.4. Other Adverse Effects
No information available

13. Disposal Considerations

13.1. Waste Treatment Methods
Disposal of wastes
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Do not reuse container.

14. Transport Information

DOT
NOT REGULATED

TDG
NOT REGULATED

MEX
NOT REGULATED

ICAO (air)
NOT REGULATED

IATA
NOT REGULATED

IMDG
NOT REGULATED

15. Regulatory Information

15.1. International Inventories
TSCA
Complies

DSL/NDSL
Complies
ENCS  Complies
IECSC  Complies
KECL  Complies
PICCS  Complies
AICS  Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
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

15.2. US Federal Regulations

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.

SARA 311/312 Hazard Categories
- Acute Health Hazard: No
- Chronic health hazard: No
- Fire Hazard: No
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

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).

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). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

15.3. US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethanolamine - 111-42-2</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
**16. Other information, including date of preparation of the last revision**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></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>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

**Revision date** 28-Mar-2018

**Revision note** No information available.

**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