1. **Product and Company Identification**

1.1 **Product identifiers**
- **Product Name:** Dynalene FC-EG
- **Producer:** Dynalene, Inc.
- **Product Number:** Not available.
- **CAS-No.:** Not available.

1.2 **Identified uses of the product and uses advised against**
- **Identified Uses:** Heat transfer fluid.

1.3 **Details of the chemical supplier**
- **Company:** Dynalene, Inc.
  5250 West Coplay Road
  Whitehall, PA 18052
  USA
- **Telephone:** +1 610-262-9686
- **Fax:** +1 610-262-7437

1.4 **Emergency telephone number**
- Within the U.S.: +1 800-424-9300 (CHEMTREC)
- Outside the U.S.: +1 703-527-3887 (CHEMTREC)

2. **Hazards Identification**

2.1 **Classification of the substance or mixture**

- **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**
  Acute toxicity, Oral (Category 4), H302

2.2 **GHS Label elements, including precautionary statements**

- **Pictogram**
  ![Pictogram]

- **Signal word:** Warning

- **Hazard statement(s)**
  - H302 Harmful if swallowed.
  - H373 May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

- **Precautionary statement(s)**
  - Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not breathe mist/vapors/spray. Get medical advice/attention if you feel unwell.
  - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
  - Dispose of contents/container to an approved waste disposal plant.

2.3 **Hazards not otherwise classified (HNOC) or not covered by GHS**

- None.
3. Composition/Information on Ingredients

3.1 Product mixture
Synonyms: Mixture.
Molecular Wt: Not available.
CAS-No.: Not available.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Classification</th>
<th>CAS-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>Acute Tx. 4, H302; STOT RE 2, H373</td>
<td>107-21-1</td>
<td>35 – 65%</td>
</tr>
<tr>
<td>Deionized water</td>
<td>Not hazardous</td>
<td>7732-18-5</td>
<td>35 – 65%</td>
</tr>
<tr>
<td>Inhibitor solution</td>
<td>Not hazardous</td>
<td>n/a</td>
<td>&lt;12%</td>
</tr>
</tbody>
</table>

4. First Aid Measures

4.1 Description of first aid measures

Skin exposure
Wash off with soap and water. Consult a physician.

Eye exposure
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Inhalation
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water and consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and in section 11.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

5. Fire Fighting Measures

5.1 Suitable (and unsuitable) extinguishing media
Suitable: Water spray, carbon dioxide, foam, dry chemical, any ABC class.

5.2 Specific hazards arising from the chemical
When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (e.g., carbon oxides).

5.3 Advice for firefighters
Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed containers if it can be done without risk to firefighters. If possible, prevent run-off water from entering storm drains, bodies of water, or other environmental areas.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment, and emergency procedures
Proper protective equipment should be used. In case of an uncontrolled release, clear the affected area, protect people, and respond with trained personnel. Avoid breathing vapors. Ensure adequate ventilation.
6.2 **Environmental precautions**  
Do not let product enter drains.

6.3 **Methods and materials for containment and cleaning up**  
Small spill: Cover with absorbent material (floor absorbent, vermiculite, etc.). Soak up spill and place material into a drum.  
Large spill: Wear protective equipment. Stop spill at source, dike the area surrounding the spill to prevent further exposure. Prevent material from entering sewer system. If necessary, absorbents such as vermiculite, clay floor absorbent may be used on spill and shoveled into drums.

6.4 **References to other sections**  
For disposal see section 13.

---

7. **Handling and Storage**

7.1 **General hygiene considerations**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the day.

7.2 **Precautions for safe handling**  
Use in a well-ventilated location. Open drums and other containers of this product slowly, on a stable surface. Drums and other containers of this product should be properly labeled. Keep containers tightly closed.

7.3 **Conditions for safe storage, including any incompatibilities**  
Move drums of this product carefully, with the appropriate drum-handling equipment. Store drums and other containers in cool, dry locations, away from direct sunlight, or sources of intense heat. Storage areas should be made of fire-resistant materials. Keep containers away from incompatible chemicals.

---

8. **Exposure Controls/Personal Protection**

8.1 **Control and exposure limits recommended by the chemical manufacturer**  
USA OSHA, Table Z-1, Limits for Air Contaminants – 1910.1000: 50 ppm, 125 mg/m³ (ethylene glycol, C value)  
USA ACGIH, Threshold Limit Values (TLV): 100 mg/m³ (ethylene glycol, C value)

Eye and upper respiratory tract irritation, not classifiable as a human carcinogen.

8.2 **Appropriate engineering controls**  
Use with adequate ventilation to minimize exposure to mists or sprays of this product. Prudent practice is to ensure eyewash/safety shower stations are available near areas where this product is used. Monitoring of oxygen level is recommended.

8.3 **Individual protection measures, such as personal protective equipment**  
All personnel handling the product should use a personal protective equipment level D.

**Respiratory protection**  
None needed for normal circumstances of use. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, or applicable State regulations. Use supplied air respiration protection if oxygen levels are below 19.5% or are unknown.

**Eye protection**  
Wear safety glasses with side shields.

**Hand protection**  
Wear butyl rubber, natural rubber, neoprene, Nitrile rubber, or other suitable gloves for routine industrial use.
Body protection  
Wear impervious clothing.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance Clear, liquid.
b) Odor Odorless.
c) Odor threshold No data available.
d) pH 5.0 - 7.0
e) Melting/freezing point < -25°C (< -13°F)
f) Boiling point > 100°C (> 212°F)
g) Flash point None.
h) Evaporation rate 1
i) Flammability (solid, gas) Not available.
j) Upper/lower flammability or explosive limits  
   Upper (UEL): 15.3% (V)  
   Lower (LEL): 3.2% (V)
k) Vapor pressure 0.08 mmHg at 25°C (77°F)
l) Vapor density 2.14 (Air = 1.0)
m) Relative density 1.0 – 1.2 g/cm³ at 25°C (77°F)

n) Water solubility Soluble.
o) Partition coefficient: n-octanol/water logP = -1.36
p) Auto-ignition temp Not available.
q) Decomposition temp Not available.
r) Viscosity > 1.0 cP at 25°C (77°F)

10. Stability and Reactivity

10.1 Reactivity
No data available.

10.2 Chemical stability
Stable under ordinary conditions of use and storage.

10.3 Possibility of hazardous reactions
Stable under ordinary conditions of use and storage.

10.4 Conditions to avoid
Contact with incompatible chemicals and exposure to extremely high temperatures.

10.5 Incompatible materials
Strong oxidizers, strong acids, acid chlorides, acid anhydrides, chloroformates, or strong reducing agents.

10.6 Hazardous decomposition products
Mainly carbon dioxide and carbon monoxide.
11. Toxicological Information

11.1 Information on toxicological effects

For ethylene glycol
LD50 Oral – rat: 4,700 mg/kg
LD50 Dermal – rabbit: 10,626 mg/kg

Skin corrosion/irritation
No data available.

Serious eye damage/eye irritation
Eyes – rabbit. Result: mild eye irritation, 24h.

Irritancy of product
This product may cause irritation to contaminated tissues.

Reproductive toxicity
This product is not reported to produce mutagenic, embryotoxic, teratogenic, or reproductive effects in humans.

Suspected cancer agent
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, NTP, or OSHA.

Irritancy of product
This product may cause irritation to contaminated tissues.

Reproductive toxicity
This product is not reported to produce mutagenic, embryotoxic, teratogenic, or reproductive effects in humans.

Medical conditions aggravated by exposure
It is anticipated that mainly skin, eye, and respiratory disorders may be aggravated after over-exposure.

Additional information
RTECS: KW2975000
When ingested early symptoms mimic alcohol inebriation and are followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage. Exposure to and/or consumption of alcohol may increase toxic effects. Central nervous system - Irregularities - Based on Human Evidence

12. Ecological Information

12.1 Ecotoxicity (aquatic and terrestrial)
This product may be harmful to aquatic life if large quantities are released into bodies of water.

Ethylene glycol
Toxicity to fish:
NOEC – Pimephales promelas (fathead minnow) – 39,140 mg/L, 96h.
NOEC – Pimephales promelas (fathead minnow) – 32,000 mg/L, 7d.
LC50 – Oncorhynchus mykiss (rainbow trout) – 18,500 mg/L, 96h.
LC50 – Leuciscus idus (golden orfe) - >10,000 mg/L, 48h.

Toxicity to invertebrates:
NOEC – Daphnia – 24,000 mg/L, 48h.
EC50 – Daphnia magna (water flea) – 74,000 mg/L, 24h.
LC50 – Daphnia magna (water flea) – 41,000 mg/L, 48h.

12.2 Persistence and degradability
Ratio BOD/ThBOD: 0.78%
12.3 **Bioaccumulation potential**
Bioaccumulation, other fish – 61d, 50 mg/L
Bioconcentration factor (BCF): 0.60

12.4 **Mobility in soil**
No data available.

12.5 **Other adverse effects**
None.

### 13. Disposal Considerations

13.1 **Waste treatment methods**
Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

### 14. Transport Information

**DOT**
UN number: 3082 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol) Reportable Quantity (RQ) : 5000 lbs no Poison Inhalation Hazard: No

**IMDG**
Not dangerous goods.

**IATA**
Not dangerous goods.

### 15. Regulatory Information

**SARA 302**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302 (Extremely Hazardous Substances).

**SARA 313**
The following components are subject to reporting levels established by SARA Title III, Sections 313 (Toxics Release Inventory Chemicals).
Ethylene Glycol CAS-No. 107-21-1

**SARA 311/312**
(Emergency Planning and Community Right-to-Know Act)
Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know**
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**
Ethylene Glycol CAS-No. 107-21-1

**New Jersey Right To Know**
Ethylene Glycol CAS-No. 107-21-1

**TSCA**
The following components are on the Toxic Substance Control Act Inventory: Ethylene Glycol CAS-No. 107-21-1

**EINECS**
All of the components of this product are on the European Inventory of Existing Commercial Chemical Substances.

**California Prop 65**
This product contains ingredients that cause cancer or reproductive harm known to the state of California. Ethylene Glycol, CAS-No. 107-21-1
Canada DSL

The following components of this product are on the Canadian Domestic Substance List: Ethylene Glycol, CAS-No. 107-21-1

16. Other Information

Revision Date
3 July 2020

This SDS was prepared by Dynalene, Inc.

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Dynalene Heat Transfer Fluids assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Dynalene Heat Transfer Fluids assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.