SAFETY DATA SHEET

According REACH Title IV, Annex II and Format ISO 11014 PIB – and also with:

1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>FUNCTIONAL CA – 447</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEMICAL FAMILY</td>
<td>SOLUTION OF ESTERS IN WHITE MINERAL OIL</td>
</tr>
<tr>
<td>PRODUCT USE</td>
<td>FOOD GRADE COUPLING AGENT</td>
</tr>
<tr>
<td>CAS REGISTRY NUMBER</td>
<td>MIXTURE</td>
</tr>
<tr>
<td>REVISION DATE</td>
<td>December 13, 2011</td>
</tr>
</tbody>
</table>

MANUFACTURER / SUPPLIER

FUNCTIONAL PRODUCTS INC.
8282 Bavaria Road
Macedonia, Ohio 44056, USA
Tel: 330-963-3060  Fax: 330-963-3322

2. HAZARDS IDENTIFICATION

EYES: Mildly irritating to eyes.

SKIN: Prolonged or repeated contact with skin may cause mild irritation and possible dermatitis.

INGESTION: Low toxicity on ingestion.

INHALATION: If heated, sprayed or misted, this product may cause chemical pneumonitis.

CARCINOGENICITY: Not listed as a carcinogen.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>SUBSTANCE/ PREPARATION</th>
<th>(% w/w)</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Mineral Oil</td>
<td>0 - 50</td>
<td>8042-47-5</td>
</tr>
<tr>
<td>Food Grade Esters</td>
<td>50 - 100</td>
<td>Mixture</td>
</tr>
</tbody>
</table>
4. FIRST-AID MEASURES

INHALATION: If inhaled, remove to fresh air. Get medical attention. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

INGESTION: If affected person is conscious, give plenty of water to drink. Never give anything to drink to an unconscious person. Get medical attention if symptoms appear. Do not induce vomiting.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops.

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 135° C / 275° F
UPPER FLAMMABLE LIMIT: Not determined.
LOWER FLAMMABLE LIMIT: Not determined.
EXTINGUISHING MEDIA: In case of fire use water spray (fog), foam or dry chemicals.
HAZARDOUS COMBUSTION PRODUCTS: Oxides of Carbon, Smoke and Fumes.
FIRE-FIGHTING PROCEDURES: Recommended wearing self-contained breathing apparatus and full turnout gear.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Personal Protective Equipment must be worn. Keep unnecessary personnel away.

ENVIRONMENTAL PRECAUTIONS AND CLEAN UP METHODS: Spills should be contained, absorbed and containerized for disposal in accord with local, state and federal regulations. Prevent entry to sewers and water-way.

7. HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling.

STORAGE: Keep container tightly closed, in cool, well ventilated area.
8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

**VENTILATION:** Use with adequate ventilation.

**HANDS:** Use chemical resistant, impervious gloves.

**EYES:** Use safety glasses, goggles or face mask.

**CLOTHING:** Long sleeve shirt is recommended.

**RESPIRATORY SYSTEM** Use appropriate respiratory protection if there is the potential

**OCCUPATIONAL EXPOSURE LIMITS**

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>OEL USA</th>
<th>OSHA - PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETROLEUM OIL</td>
<td>TWA: 5 STEL: 10 (mg / m3) from ACGIH (TLV)</td>
<td>TWA: 5 (mg / m3)</td>
</tr>
</tbody>
</table>

9. **PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE:** Liquid

**COLOR:** Water White to Pale Yellow

**ODOR:** Mild petroleum odor.

**DENSITY:** 0.92 g / cm3 at 15 deg C (59 Deg F)

**SOLUBILITY:** Insoluble in water.

**BOILING POINT:** N / A

**VAPOR PRESSURE:** < 0.1

**EVAPORATION RATE:** < 1

10. **STABILITY AND REACTIVITY**

**STABILITY:** The product is stable.

**INCOMPATIBILITY:** Strong oxidants and reducing agents.

**CONDITIONS TO AVOID:** Not known.

11. **TOXICOLOGICAL INFORMATION**

**SENSITIZATION:** Based on current information, there is no known human sensitization associated with this product.

**MUTAGENICITY:** Experimental evidence suggests that this product do not cause mutagenesis.

**CARCINOGENICITY** Not classified or listed by IARC, NTP, OSHA, EU, and ACGIH.

**TERATOGENICITY** Based on best current information, there is no known teratogenicity associated with this product.

**REPRODUCTIVE TOXICITY** Based on best current information, there is no known reproductive toxicity associated with this product.
12. **ECOLOGICAL INFORMATION**

ENVIRONMENTAL HAZARDS  Not available  
FISH TOXICITY  Not available  
ALGAE TOXICITY  Not available  
BACTERIA TOXICITY  Not available  

13. **DISPOSAL CONSIDERATIONS**

WASTE DISPOSAL  Waste must be disposed of in accordance with federal, state and local environmental control regulations.  

14. **TRANSPORTATION INFORMATION**

U.S DOT BULK  Not regulated.  
U.S. DOT NON-BULK  Not regulated.  
IMDG CODE  Not regulated.  
ICAO  Not regulated.  
ADR/RID HAZARD CLASS  Not regulated.  

15. **REGULATORY INFORMATION**

U.S.TSCA INVENTORY  Yes  
SARA EXT. HAZ. SUBS.  No  
SARA Section 313  No  
CERCLA  No  
CAL. PROP. 65  No  
EUROPE  All components are listed on EINECS inventory.  
JAPAN MITI  All components are listed on MITI inventory.  
AUSTRALIA  All components are in compliance with chemical notification requirements in Australia.  
CANADA  All components are listed on DSL inventory.  
KOREA  All components are in compliance in Korea.  
PHILIPPINES  All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act Of 1990 (R.A. 6969).  

16. **OTHER INFORMATION**

NFPA CODE  Health: 1   Fire: 1   Reactivity: 0  

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