Functional Products Inc.

Safety Data Sheet

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

1. Material / Company Identification

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>Functional RD-535CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEMICAL FAMILY</td>
<td>Lubricant Additive</td>
</tr>
<tr>
<td>PRODUCT USE</td>
<td>Rock Drilling Oil Additive</td>
</tr>
<tr>
<td>CAS REGISTRY NUMBER</td>
<td>Mixture</td>
</tr>
<tr>
<td>REVISION DATE</td>
<td>New</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

This material is NOT considered hazardous by OSHA 29CFR1910.1200 Standard.

Eyes                   Irritating to eyes.
Skin                   Irritating to skin. Wash with plenty of soap and water. Prolonged or repeated exposure may cause dermatitis.
Ingestion              Irritating to the esophagus.
Inhalation             May be irritating to the mucous membrane with prolonged exposure.

2. Composition

<table>
<thead>
<tr>
<th>Substance / Preparation</th>
<th>% (w/w)</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olefin Sulfide</td>
<td>42.0 – 48.9</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Phosphoric Acid Esters, Amine Salt</td>
<td>7.0 – 13.9</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Alkyl aryl Amine</td>
<td>3.5 – 6.9</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Alkylated Triazole</td>
<td>4.0 – 6.0</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Hydrocarbon Polymer</td>
<td>1.5 – 2.0</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Ethoxylated alcohol</td>
<td>0.1 – 0.5</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Vegetable Oil</td>
<td>18.0 – 18.5</td>
<td>120962-03-0</td>
</tr>
</tbody>
</table>
4. First Aid Measures

Inhalation Remove to fresh air. In case of irritation to the respiratory system or mucous membranes, get medical attention. In case of prolonged exposure, get medical attention.

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: 100 °C / 212°F (COC)
Extinguishing Media: In case of fire use CO2, foam or dry chemicals.
Hazardous Combustion Products: Vapor may cause flash fire. Container may rapture on heating.
Fire Fighting Procedures: Recommended to wear self-contained breathing apparatus and full protective 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. Do not flush into surface water, sanitary sewer or ground water system.

7. Handling and Storage

Handling Keep away from potential source of ignition. Wash thoroughly after handling. Open container in a well ventilated area. Avoid breathing vapors.

Storage Store in well ventilated areas in maximum 45°C / 113°F temperatures.
8. **Exposure Controls / Personal Protection**

<table>
<thead>
<tr>
<th>Protection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilation</td>
<td>Use with adequate ventilation.</td>
</tr>
<tr>
<td>Hands</td>
<td>Use chemical resistant nitrile or neoprene gloves.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Use safety glasses, goggles or face mask.</td>
</tr>
<tr>
<td>Clothing</td>
<td>Long sleeve shirt is recommended.</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Use appropriate respiratory protection if there is the potential for overexposure to fumes.</td>
</tr>
</tbody>
</table>

9. **Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State:</td>
<td>Clear Liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Amber</td>
</tr>
<tr>
<td>Odor:</td>
<td>Strong</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>0.98 @ 15.6°C</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>100 °C / 212°F (COC)</td>
</tr>
</tbody>
</table>

10. **Reactivity and Stability**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Incompatibility</td>
<td>Oxidizing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>High temperatures, spark, and open flames.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

11. **Toxicological Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitization</td>
<td>Based on current information, there is no known human sensitization associated with this product.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No data available to suggest that this product is mutagenic.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified or listed by IARC, NTP, OSHA, EU, and ACGIH.</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>Based on best current information, there is no known teratogenicity associated with this product.</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Based on best current information, there is no known reproductive toxicity associated with this product.</td>
</tr>
</tbody>
</table>

12. **Ecological Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradability</td>
<td>At least 25% of the components in this material show moderate biodegradation based on OECD 301 and OECD 302 type test data.</td>
</tr>
<tr>
<td>Environmental Toxicity</td>
<td>The acute LC50 is 1 – 10mg/L based on component data.</td>
</tr>
</tbody>
</table>
13. Disposal Considerations

Waste Disposal This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261.

14. Transportation Information

U.S. DOT BULK Not Regulated
ICAO/IATA (US) Not Regulated
ICAO/IATA (International) Not Regulated

15. Regulatory Information

U.S. TSCA INVENTORY Yes
Other TSCA Reg. No
SARA EXT. HAZ. SUBS. No
SARA Section 313 No
CERCLA No
CAL. PROP. 65 This product contains the following chemical(s): Less than 6 ppm Ethyl Acrylate, CAS# 140-88-5, less than 2 ppm arsenic, less than 1 ppm lead and cadmium based on maximum impurity levels of components known to the State of California to cause cancer, birth defects, or other reproductive harm, which would require a warning under statue.

JAPAN MITI All components are listed on MITI inventory.
AUSTRALIA All components are in compliance with chemical notification requirements Australia.
EUROPE All components are listed on EINECS inventory.
CHINA All components are listed on China’s inventory.
CANADA All components are listed on DSL inventory. All components are in compliance with CEPA.
KOREA WHMIS – not controlled.
PHILIPPINES All components are listed on ECI inventory. 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
HMIS CODE Health: 1 Fire: 1 Reactivity: 0

The information presented herein has been compiled from sources considered to be dependable and are accurate to the best of FUNCTIONAL PRODUCTS INC. knowledge. However FUNCTIONAL PRODUCTS INC. makes no warranty whatsoever and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation and verification.