1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>FUNCTIONAL X – 252</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEMICAL FAMILY</td>
<td>OIL SOLUTION OF COMPLEX AMINES</td>
</tr>
<tr>
<td>PRODUCT USE</td>
<td>EMULSIFIER</td>
</tr>
<tr>
<td>CAS REGISTRY NUMBER</td>
<td>MIXTURE</td>
</tr>
<tr>
<td>REVISION DATE</td>
<td>March 11, 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: May cause irritation.

SKIN: May cause irritation.

INGESTION: May cause throat irritation, nausea, vomiting, and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

INHALATION: This product is not likely to cause an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, lungs).

CARCINOGENICITY: Not carcinogenic.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>SUBSTANCE/ PREPARATION</th>
<th>% (w/w)</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETROLEUM OIL</td>
<td>60 – 80</td>
<td>64742-58-1</td>
</tr>
<tr>
<td>POLYMERIC AMINE</td>
<td>20 – 40</td>
<td>PROPRIETARY</td>
</tr>
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</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:** Do not induce vomiting. If conscious, give 2 glasses of water. Immediately get medical attention.

**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:** > 160° C / 320° F

**UPPER FLAMMABLE LIMIT:** Not determined.

**LOWER FLAMMABLE LIMIT:** Not determined.

**EXTINGUISHING MEDIA:** In case of fire, use water, foam dry chemicals or CO2.

**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. Ventilate area and avoid breathing vapor or mist.

**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:** Avoid contact with eyes and skin, Wash thoroughly after handling. Avoid breathing vapor or dust. Keep away from heat, sparks and flames.

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

VENTILATION: Use with adequate ventilation to control fumes.
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 any potential for uncontrolled release or exposure levels are not known.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE: Liquid.
COLOR: Amber.
ODOR: Petroleum odor.
SPECIFIC GRAVITY: 0.90 (water=1).
SOLUBILITY: Insoluble in water.
VAPOR PRESSURE: less than 0.1 mm Hg @ 68°F (20°C).
BOILING POINT: 475°F (246°C).

10. **STABILITY AND REACTIVITY**

STABILITY: The product is stable.
INCOMPATIBILITY: Strong oxidants.
CONDITIONS TO AVOID: Excessive temperature.
HAZARDOUS DECOMPOSITION: CO, CO2, aldehydes, organic oxidation products.
POLYMERIZATION: Polymerization will not occur.

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 Petroleum oil is listed on EINECS inventory. Polymers are exempt from EINECS inventory under the polymer exemption.

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
HIMS CODE Health: 1 Fire: 1 Reactivity: 0

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