SECTION 1 - IDENTIFICATION

Oil Chem Technologies  
12822 Park One Drive  
Sugar Land, TX 77478  

Trade Name: ORS-97HF  
Chemical Family: SURFACTANT  

SECTION 2 – HAZARDS IDENTIFICATION

NFPA Hazard Rating Scale:

HEALTH: 2  FIRE: 1  REACTIVITY: 0

(Degree of hazard: 4=severe, 3=serious, 2=moderate, 1=slight, 0=minimal)

HEALTH HAZARDS:

SKIN: Irritant, may cause temporary redness, mild local irritation and sensitization. Repeated or prolonged contact with skin may cause dermatitis. May be harmful if absorbed through skin.

EYES: Irritant, may cause burning, redness, and pain.

INGESTION: Harmful if ingested. May cause headaches, nausea, dizziness and other symptoms of central nervous depression.

INHALATION: Respiratory irritation, central nervous depression, and possible damage to the kidney and liver.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components  
ethylene glycol butyl ether  
CAS No. 111-76-2  
% by Weight 14 – 25

Other Components  
Alkylbenzene sulfonic acid, sodium salt (C12-18 and C19-28)  
CAS No. 70892-46-5 and 70024-73-6  
% by Weight 50-60

Sodium Sulfate  
CAS No. 7757-82-6  
% by Weight 0-2.0

Water  
CAS No. 7732-18-5  
% by Weight Remainder
SECTION 4 – FIRST-AID MEASURES

INGESTION: If victim is conscious and able to swallow, have the victim drink water to dilute. Never give anything by mouth if victim is unconscious or having convulsion. Induce vomiting only if advised by a physician or poison control center. Call a physician or poison control center immediately.

INHALATION: Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering oxygen. Keep the affected person warm and at rest. Get medical attention immediately.

SKIN: Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.)

EYES: Immediately flush with large quantities of water for at least 15 minutes, occasionally lifting the upper and lower eyelids, and call a physician.

SECTION 5 - FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flash Point, F &amp; Method</th>
<th>Flammable Limits: NA</th>
<th>LEL, % ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;200°F</td>
<td>PMCC</td>
<td>UEL, % ND</td>
</tr>
</tbody>
</table>

FIRE HAZARDS:
This material may burn, but it does not readily ignite.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS:
Firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

EXTINGUISHING MEDIA:
Drychemical or waterspray or waterfog or CO2 or foam or Sand/Earth

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Avoid all ignition sources such as flames and sparks. Insure good ventilation. If volume is significant, transfer into containers for disposal. Seal containers tightly. Absorb on an inert ingredient such as earth, sand or vermiculite. Sweep up and dispose of according to Federal, State and local regulations.
SECTION 7 – HANDLING AND STORAGE

Recommended Storage Temperatures: 5 to 32°C (45 to 90°F).

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection (Specify Type): Use NIOSH approved respirator if PEL is exceeded.
Ventilation: General or local mechanical exhaust
Protective Gloves: Rubber or plastic, solvent resistant
Eye Protection: Chemical Safety Goggles/Safety Glasses
Other protection: Coveralls, Splash Aprons, Eye Wash, and Safety Shower
Work/Hygienic Practices: Clean up spills promptly, wash contaminated clothing
Special: Use SCBA when entering tanks

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point, F</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg)</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>ND</td>
</tr>
<tr>
<td>pH</td>
<td>8-10</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Appearance and Odor</td>
<td>Clear to slightly hazy amber liquid</td>
</tr>
<tr>
<td>Specific Gravity (H2O=1)</td>
<td>1.03 typical</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>ND</td>
</tr>
<tr>
<td>(butyl acetate=1)</td>
<td></td>
</tr>
<tr>
<td>Viscosity:</td>
<td>&gt; 100 cps</td>
</tr>
</tbody>
</table>

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: STABLE
Hazardous Decomposition/Byproducts: Carbon monoxide and carbon dioxide from burning. Oxides of sulfur.
Hazardous Polymerization: Will not occur
Incompatible Materials: Strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

SECTION 11 – TOXICOLOGICAL INFORMATION

Carcinogenicity: NO  NTP: ND  IARC: ND  OSHA Regulated: NO

Toxicity to Animals:
Data for Component: Ethylene glycol monobutyl ether
Ingestion
LD50, Rat 470 - 3,000 mg/kg
Skin Absorption
LD50, Rat 2,270 mg/kg
LD50, Rabbit 99 - 610 mg/kg
Chronic Effects on Humans:
Data for Component: Ethylene glycol monobutyl ether
In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling procedures, exposures should not pose a carcinogenic risk to man.

Repeated Dose Toxicity
Data for Component: Ethylene glycol monobutyl ether
In animals, effects have been reported on the following organs: blood (hemolysis) and secondary effects on the kidney and liver. Human red blood cells have been shown to be significantly less sensitive to hemolysis than those of rodents and rabbits.

SECTION 12 – ECOLOGICAL INFORMATION

Persistance and Degradability
Material is readily biodegradable in water treatment systems.

Ecotoxicity
The product is expected to be moderately toxic to aquatic organisms.

SECTION 13 – DISPOSAL CONSIDERATIONS

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

SECTION 14 – TRANSPORT INFORMATION

Hazard Classification: NOT-REGULATED  DOT ER Guide No.: NONE
Labels Required: NONE  UN/NA No.: NONE

Proper Shipping Name/Description:
NOT REGULATED

DOT RQ in lbs: NA  Flash Point, F: >200°F  Pkg. Group: NONE
DOT RQ in gal: NA  pH: 8-10  IMDG Pg.No.: NONE

SECTION 15 – REGULATORY INFORMATION

U.S. Toxic Substances Control Act (TSCA) Information
The component(s) of this product are listed on the TSCA Chemical Substances Inventory.

CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

This product contains the following chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (the corresponding CAS number and percent by weight are also provided):

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol monobutyl ether</td>
<td>111-76-2</td>
<td>15- 30%</td>
</tr>
</tbody>
</table>

SECTION 16 – OTHER INFORMATION

Abbreviations: NA=not applicable, ND=not determined, NE=not established

Last Revision: 20091001

This information is based on data believed by Oil Chem Technologies to be accurate, but no warranty, expressed or implied, is made.