

## MATERIAL SAFETY DATA SHEET

Product Trade Name: **INVERMUL® 2F NS**

Revision Date: 04-Jan-2011

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Trade Name: INVERMUL® 2F NS  
Synonyms: None  
Chemical Family: Blend  
Application: Emulsifier

Manufacturer/Supplier: Baroid Fluid Services  
Product Service Line of Halliburton  
P.O. Box 1675  
Houston, TX 77251  
Telephone: (281) 871-4000  
Emergency Telephone: (281) 575-5000

Prepared By: Chemical Compliance  
Telephone: 1-580-251-4335  
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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| Substances                   | CAS Number | PERCENT  | ACGIH TLV-TWA  | OSHA PEL-TWA   |
|------------------------------|------------|----------|----------------|----------------|
| Glycol ether                 |            | 1 - 5%   | 100 ppm (S)    | 100 ppm (S)    |
| Paraffin based petroleum oil |            | 10 - 30% | Not applicable | Not applicable |

**3. HAZARDS IDENTIFICATION**

**Hazard Overview** May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. Combustible.

**4. FIRST AID MEASURES**

**Inhalation** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Eyes** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

**Ingestion** Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

**Notes to Physician** Not Applicable

## 5. FIRE FIGHTING MEASURES

|   |                |
|---|----------------|
| Flash Point/Range (F):                  | 185            |
| Flash Point/Range (C):                  | 85             |
| Flash Point Method:                     | PMCC           |
| Autoignition Temperature (F):           | Not Determined |
| Autoignition Temperature (C):           | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |

**Fire Extinguishing Media** Water fog, carbon dioxide, foam, dry chemical.

**Special Exposure Hazards** Decomposition in fire may produce toxic gases.

**Special Protective Equipment for Fire-Fighters** Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**NFPA Ratings:** Health 2, Flammability 1, Reactivity 0

**HMIS Ratings:** Health 2, Flammability 1, Reactivity 0

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures** Use appropriate protective equipment.

**Environmental Precautionary Measures** Prevent from entering sewers, waterways, or low areas.

**Procedure for Cleaning / Absorption** Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. HANDLING AND STORAGE

**Handling Precautions** Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

**Storage Information** Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls** Use in a well ventilated area.

**Respiratory Protection** Organic vapor respirator with a dust/mist filter. In high concentrations, supplied air respirator or a self-contained breathing apparatus.

**Hand Protection** Impervious rubber gloves.

**Skin Protection** Rubber apron.

**Eye Protection** Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Precautions** Eyewash fountains and safety showers must be easily accessible.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                 |                  |
|-----------------|------------------|
| Physical State: | Liquid           |
| Color:          | Black            |
| Odor:           | Mild hydrocarbon |
| pH:             | Not Determined   |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |                |
|--|----------------|
| Specific Gravity @ 20 C (Water=1):         | 0.94           |
| Density @ 20 C (lbs./gallon):              | 7.83           |
| Bulk Density @ 20 C (lbs/ft3):             | Not Determined |
| Boiling Point/Range (F):                   | Not Determined |
| Boiling Point/Range (C):                   | Not Determined |
| Freezing Point/Range (F):                  | Not Determined |
| Freezing Point/Range (C):                  | Not Determined |
| Vapor Pressure @ 20 C (mmHg):              | Not Determined |
| Vapor Density (Air=1):                     | Not Determined |
| Percent Volatiles:                         | Not Determined |
| Evaporation Rate (Butyl Acetate=1):        | Not Determined |
| Solubility in Water (g/100ml):             | Insoluble      |
| Solubility in Solvents (g/100ml):          | Not Determined |
| VOCs (lbs./gallon):                        | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise):    | Not Determined |
| Viscosity, Kinematic @ 20 C (centistokes): | Not Determined |
| Partition Coefficient/n-Octanol/Water:     | Not Determined |
| Molecular Weight (g/mole):                 | Not Determined |

## 10. STABILITY AND REACTIVITY

|                                      |   |
|--------------------------------------|---|
| Stability Data:                      | Stable  |
| Hazardous Polymerization:            | Will Not Occur  |
| Conditions to Avoid                  | Keep away from heat, sparks and flame.                                |
| Incompatibility (Materials to Avoid) | Strong oxidizers.   |
| Hazardous Decomposition Products     | Oxides of nitrogen. Hydrocarbons. Carbon monoxide and carbon dioxide. |
| Additional Guidelines                | Not Applicable  |

## 11. TOXICOLOGICAL INFORMATION

|                                 |   |
|---------------------------------|---|
| Principle Route of Exposure     | Eye or skin contact, inhalation.  |
| Inhalation                      | May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.   |
| Skin Contact                    | May cause skin irritation.  |
| Eye Contact                     | May cause eye irritation.   |
| Ingestion                       | Irritation of the mouth, throat, and stomach. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions. |
| Aggravated Medical Conditions   | Lung disorders.   |
| Chronic Effects/Carcinogenicity | No data available to indicate product or components present at greater than 1% are chronic health hazards.  |
| Other Information               | None known.   |
| Toxicity Tests                  |   |

|   |                |
|---|----------------|
| <b>Oral Toxicity:</b>                             | Not determined |
| <b>Dermal Toxicity:</b>                           | Not determined |
| <b>Inhalation Toxicity:</b>                       | Not determined |
| <b>Primary Irritation Effect:</b>                 | Not determined |
| <b>Carcinogenicity</b>                            | Not determined |
| <b>Genotoxicity:</b>                              | Not determined |
| <b>Reproductive /<br/>Developmental Toxicity:</b> | Not determined |

## 12. ECOLOGICAL INFORMATION

|                                  |                |
|----------------------------------|----------------|
| <b>Mobility (Water/Soil/Air)</b> | Not determined |
| <b>Persistence/Degradability</b> | Not determined |
| <b>Bio-accumulation</b>          | Not determined |

### Ecotoxicological Information

|                                    |  |
|------------------------------------|--|
| <b>Acute Fish Toxicity:</b>        | LC50: 1945.9 mg/kg (Corophium volutator) |
| <b>Acute Crustaceans Toxicity:</b> | TLM48: 5.2 mg/l (Acartia tonsa)          |
| <b>Acute Algae Toxicity:</b>       | EC50: 7.73 mg/l (Skeletonema costatum)   |

|                                  |                |
|----------------------------------|----------------|
| <b>Chemical Fate Information</b> | Not determined |
| <b>Other Information</b>         | Not applicable |

## 13. DISPOSAL CONSIDERATIONS

|                               |   |
|-------------------------------|---|
| <b>Disposal Method</b>        | Disposal should be made in accordance with federal, state, and local regulations. |
| <b>Contaminated Packaging</b> | Follow all applicable national or local regulations.                              |

## 14. TRANSPORT INFORMATION

### Land Transportation

**DOT**  
Not restricted

**DOT (Bulk)**  
NA1993, Combustible Liquid, N.O.S., Combustible Liquid, III  
(Contains Petroleum Distillates)

**Canadian TDG**  
Not restricted

**ADR**  
Not restricted

### Air Transportation

**ICAO/IATA**  
Not restricted

## Sea Transportation

### IMDG

Not restricted

## Other Transportation Information

Labels: None

## 15. REGULATORY INFORMATION

### US Regulations

**US TSCA Inventory** All components listed on inventory or are exempt.

**EPA SARA Title III Extremely Hazardous Substances** Not applicable

**EPA SARA (311,312) Hazard Class** Acute Health Hazard  
Fire Hazard

**EPA SARA (313) Chemicals** This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372:  
Glycol Ethers//34590-94-8

**EPA CERCLA/Superfund Reportable Spill Quantity** Not applicable.

**EPA RCRA Hazardous Waste Classification** If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

**California Proposition 65** All components listed do not apply to the California Proposition 65 Regulation.

**MA Right-to-Know Law** One or more components listed.

**NJ Right-to-Know Law** One or more components listed.

**PA Right-to-Know Law** One or more components listed.

### Canadian Regulations

**Canadian DSL Inventory** All components listed on inventory or are exempt.

**WHMIS Hazard Class** B3 Combustible Liquids  
D2B Toxic Materials

## 16. OTHER INFORMATION

**The following sections have been revised since the last issue of this MSDS**

Not applicable

**Additional Information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

**Disclaimer Statement**

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**\*\*\*END OF MSDS\*\*\***