

## MATERIAL SAFETY DATA SHEET

Product Trade Name: **SYSTEM FLOC-360™**

Revision Date: 11-Feb-2008

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** SYSTEM FLOC-360™  
**Synonyms:** None  
**Chemical Family:** Polymer in Aqueous Solution  
**Application:** Flocculent

**Manufacturer/Supplier:** Baroid Fluid Services  
a Product Service Line of Halliburton Energy Services, Inc.  
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

| SUBSTANCE                        | CAS Number | PERCENT   | ACGIH TLV-TWA  | OSHA PEL-TWA   |
|----------------------------------|------------|-----------|----------------|----------------|
| Contains no hazardous substances | Mixture    | 60 - 100% | Not applicable | Not applicable |

### 3. HAZARDS IDENTIFICATION

**Hazard Overview:** May cause eye irritation.

### 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):                  | > 200          |
| Flash Point/Range (C):                  | > 100          |
| Flash Point Method:                     | Not Determined |
| Autoignition Temperature (F):           | Not Determined |
| Autoignition Temperature (C):           | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |

|   |  |
|---|--|
| <b>Fire Extinguishing Media</b>                       | All standard firefighting media.   |
| <b>Special Exposure Hazards</b>                       | Spills produce extremely slippery surfaces.  |
| <b>Special Protective Equipment for Fire-Fighters</b> | Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel. |
| <b>NFPA Ratings:</b>                                  | Health 1, Flammability 0, Reactivity 0   |
| <b>HMIS Ratings:</b>                                  | Health 1, Flammability 0, Physical Hazard 0  |

## 6. ACCIDENTAL RELEASE MEASURES

|   |  |
|---|--|
| <b>Personal Precautionary Measures</b>      | Use appropriate protective equipment.  |
| <b>Environmental Precautionary Measures</b> | Prevent from entering sewers, waterways, or low areas.   |
| <b>Procedure for Cleaning / Absorption</b>  | Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove. |

## 7. HANDLING AND STORAGE

|                             |   |
|-----------------------------|---|
| <b>Handling Precautions</b> | Avoid contact with eyes, skin, or clothing. Material is slippery underfoot.   |
| <b>Storage Information</b>  | Store in a cool, dry location. Keep container closed when not in use. Store at temperatures between 50 and 100 F (10 and 37.8 C). Do not freeze. Product has a shelf life of 36 months. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|                               |   |
|-------------------------------|---|
| <b>Engineering Controls</b>   | Use in a well ventilated area.  |
| <b>Respiratory Protection</b> | If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. |
| <b>Hand Protection</b>        | Impervious rubber gloves.   |
| <b>Skin Protection</b>        | Rubber apron.   |
| <b>Eye Protection</b>         | Chemical goggles; also wear a face shield if splashing hazard exists.   |
| <b>Other Precautions</b>      | Eyewash fountains and safety showers must be easily accessible.   |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |                |
|---|----------------|
| Physical State:                             | Liquid         |
| Color:                                      | Clear amber    |
| Odor:                                       | Odorless       |
| pH:   | 4.8-6.5 (1%)   |
| Specific Gravity @ 20 C (Water=1):          | 1.14-1.18      |
| Density @ 20 C (lbs./gallon):               | 9.5-9.8        |
| Bulk Density @ 20 C (lbs/ft3):              | Not Determined |
| Boiling Point/Range (F):                    | > 212          |
| Boiling Point/Range (C):                    | > 100          |
| Freezing Point/Range (F):                   | 20             |
| Freezing Point/Range (C):                   | -7             |
| Vapor Pressure @ 20 C (mmHg):               | Not Determined |
| Vapor Density (Air=1):                      | Not Determined |
| Percent Volatiles:                          | 80-85          |
| Evaporation Rate (Butyl Acetate=1):         | Not Determined |
| Solubility in Water (g/100ml):              | Soluble        |
| Solubility in Solvents (g/100ml):           | Not Determined |
| VOCs (lbs./gallon):                         | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise):     | 80-120 (25C)   |
| Viscosity, Kinematic @ 20 C (centistrokes): | 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                  | None anticipated   |
| Incompatibility (Materials to Avoid) | None known.  |
| Hazardous Decomposition Products     | Hydrogen chloride. Carbon monoxide and carbon dioxide. Oxides of nitrogen. |
| Additional Guidelines                | Not Applicable   |

## 11. TOXICOLOGICAL INFORMATION

|                                 |   |
|---------------------------------|---|
| Principle Route of Exposure     | Eye or skin contact, inhalation.  |
| Inhalation                      | Inhalation of mist or heated vapors may cause respiratory irritation.               |
| Skin Contact                    | May cause mild skin irritation.   |
| Eye Contact                     | May cause eye irritation.   |
| Ingestion                       | In normal industrial use, ingestion is not considered a probable route of exposure. |
| Aggravated Medical Conditions   | Skin disorders.   |
| Chronic Effects/Carcinogenicity | Not determined  |
| Other Information               | None known.   |
| Toxicity Tests                  |   |

|   |                          |
|---|--------------------------|
| <b>Oral Toxicity:</b>                         | LD50: > 2000 mg/kg (Rat) |
| <b>Dermal Toxicity:</b>                       | LD50: > 2000 mg/kg (Rat) |
| <b>Inhalation Toxicity:</b>                   | Not determined           |
| <b>Primary Irritation Effect:</b>             | Not determined           |
| <b>Carcinogenicity</b>                        | Not determined           |
| <b>Genotoxicity:</b>                          | Ames test: negative      |
| <b>Reproductive / Developmental Toxicity:</b> | Not determined           |

## 12. ECOLOGICAL INFORMATION

|                                  |                                |
|----------------------------------|--------------------------------|
| <b>Mobility (Water/Soil/Air)</b> | Not determined                 |
| <b>Persistence/Degradability</b> | Not readily biodegradable.     |
| <b>Bio-accumulation</b>          | Not expected to bioaccumulate. |

### Ecotoxicological Information

**Acute Fish Toxicity:** LC50:(96 hour) >10 mg/l (Brachidanio rerio)  
**Acute Crustaceans Toxicity:** EC50(48): > 50 mg/l (Daphnia magna)

**Acute Algae Toxicity:** Not determined

**Chemical Fate Information** Not determined

**Other Information** 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

**Canadian TDG**  
Not restricted

**ADR** Not restricted

### Air Transportation

**ICAO/IATA** Not restricted

### Sea Transportation

IMDG Not restricted

## Other Shipping Information

Labels: None

### 15. REGULATORY INFORMATION

#### US Regulations

|  |  |
|--|--|
| <b>US TSCA Inventory</b>                                 | All components listed on inventory.  |
| <b>EPA SARA Title III Extremely Hazardous Substances</b> | Not applicable   |
| <b>EPA SARA (311,312) Hazard Class</b>                   | Acute Health Hazard  |
| <b>EPA SARA (313) Chemicals</b>                          | This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372). |
| <b>EPA CERCLA/Superfund Reportable Spill Quantity</b>    | Not applicable.  |
| <b>EPA RCRA Hazardous Waste Classification</b>           | If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.                             |
| <b>California Proposition 65</b>                         | The California Proposition 65 regulations apply to this product.   |
| <b>MA Right-to-Know Law</b>                              | One or more components listed.   |
| <b>NJ Right-to-Know Law</b>                              | One or more components listed.   |
| <b>PA Right-to-Know Law</b>                              | One or more components listed.   |

#### Canadian Regulations

|                               |                                     |
|-------------------------------|-------------------------------------|
| <b>Canadian DSL Inventory</b> | All components listed on inventory. |
| <b>WHMIS Hazard Class</b>     | Un-Controlled                       |

### 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\*\*\***