

# MATERIAL SAFETY DATA SHEET

**Product Trade Name:** 15% FE ACID - DOUBLE STRENGTH

**Revision Date:** 04-Jan-2011

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 15% FE ACID - DOUBLE STRENGTH  
**Synonyms:** None  
**Chemical Family:** Acid  
**Application:** Acid  
**Manufacturer/Supplier:** Halliburton Energy Services  
P.O. Box 1431  
Duncan, Oklahoma 73536-0431  
Emergency Telephone: (281) 575-5000

**Prepared By:** Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances        | CAS Number | PERCENT  | ACGIH TLV-TWA | OSHA PEL-TWA |
|-------------------|------------|----------|---------------|--------------|
| Acetic anhydride  | 108-24-7   | 1 - 5%   | 5 ppm         | 5 ppm        |
| Hydrochloric acid | 7647-01-0  | 10 - 30% | 2 ppm         | 5 ppm        |

## 3. HAZARDS IDENTIFICATION

**Hazard Overview** May cause eye and skin burns. May cause respiratory irritation. May be harmful if swallowed.

## 4. FIRST AID MEASURES

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Skin** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**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):                  | Not Determined |
| Flash Point/Range (C):                  | Not Determined |
| Flash Point Method:                     | Not Determined |
| Autoignition Temperature (F):           | 630            |
| Autoignition Temperature (C):           | 332            |
| Flammability Limits in Air - Lower (%): | 3              |
| Flammability Limits in Air - Upper (%): | 19             |

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

**Special Exposure Hazards** Decomposition in fire may produce toxic gases. Reaction with steel and certain other metals generates flammable hydrogen gas. Do not allow runoff to enter waterways.

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

**NFPA Ratings:** Health 3, Flammability 0, Reactivity 1

**HMIS Ratings:** Health 3, Flammability 0, Reactivity 1

## 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. Neutralize to pH of 6-8. 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 alkalis. Store in a cool well ventilated area. Keep container closed when not in use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls** Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Respiratory Protection** Acid gas respirator.

**Hand Protection** Impervious rubber gloves.

**Skin Protection** Full protective chemical resistant clothing.

**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:** Clear colorless

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                             |                |
|---------------------------------------------|----------------|
| Odor:                                       | Pungent acrid  |
| pH:                                         | 1              |
| Specific Gravity @ 20 C (Water=1):          | 1.07           |
| Density @ 20 C (lbs./gallon):               | 8.91           |
| Bulk Density @ 20 C (lbs/ft3):              | Not Determined |
| Boiling Point/Range (F):                    | 230            |
| Boiling Point/Range (C):                    | 110            |
| 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):              | Miscible       |
| Solubility in Solvents (g/100ml):           | Not Determined |
| VOCs (lbs./gallon):                         | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise):     | Not Determined |
| 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) | Strong alkalis.                                     |
| Hazardous Decomposition Products     | Flammable hydrogen gas. Chlorine. Hydrogen sulfide. |
| Additional Guidelines                | Not Applicable                                      |

## 11. TOXICOLOGICAL INFORMATION

|                                 |                                                                           |
|---------------------------------|---------------------------------------------------------------------------|
| Principle Route of Exposure     | Eye or skin contact, inhalation.                                          |
| Inhalation                      | Causes severe respiratory irritation.                                     |
| Skin Contact                    | Causes severe skin irritation. May cause skin burns on prolonged contact. |
| Eye Contact                     | Causes severe eye irritation May cause eye burns.                         |
| Ingestion                       | Causes burns of the mouth, throat and stomach.                            |
| Aggravated Medical Conditions   | Skin disorders.                                                           |
| Chronic Effects/Carcinogenicity | Prolonged, excessive exposure may cause erosion of the teeth.             |
| Other Information               | None known.                                                               |
| Toxicity Tests                  |                                                                           |
| Oral Toxicity:                  | Not determined                                                            |
| Dermal Toxicity:                | 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 / 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>        | Not determined |
| <b>Acute Crustaceans Toxicity:</b> | Not determined |
| <b>Acute Algae Toxicity:</b>       | Not determined |

|                                  |                |
|----------------------------------|----------------|
| <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

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Anhydride), 8, II  
RQ (Hydrochloric Acid - 15153 kg.)  
NAERG 154

#### Canadian TDG

Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Anhydride), 8, UN3264, II

#### ADR

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Anhydride), 8, II

### Air Transportation

#### ICAO/IATA

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S., 8, II

(Contains Hydrochloric Acid, Acetic Anhydride Solution)  
RQ (Hydrochloric Acid - 15153 kg.)

## Sea Transportation

### IMDG

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Anhydride), 8, II  
RQ (Hydrochloric Acid - 15153 kg.)

## Other Shipping Information

Labels: Corrosive

## 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                                                                                                                      |
| EPA SARA (313) Chemicals                          | This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).     |
| EPA CERCLA/Superfund Reportable Spill Quantity    | EPA Reportable Spill Quantity is 3450 Gallons based on Hydrochloric acid (CAS: 7647-01-0).                                               |
| EPA RCRA Hazardous Waste Classification           | If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:<br><br>Corrosivity D002 |
| 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. |
| WHMIS Hazard Class     | E Corrosive Material                |

## 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\*\*\***