

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** HF ACID 9%/1%

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

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** HF ACID 9%/1%  
**Synonyms:** None  
**Chemical Family:** Inorganic 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  
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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Hydrochloric acid	7647-01-0	5 - 10%	2 ppm	5 ppm
Hydrofluoric acid	7664-39-3	1 - 5%	0.5 ppm	3 ppm

### 3. HAZARDS IDENTIFICATION

**Hazard Overview:** May cause eye, skin, and respiratory burns. May be fatal if swallowed.

### 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:** 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. Wearing protective gloves, apply 2.5% calcium gluconate gel at burn site rubbing continuously.

**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:** Apply 1 to 2 drops of 0.5% Pontocaine Hydrochloride into open eye. Irrigate with 1.0% calcium gluconate in normal saline for 1 to 2 hours.

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not Determined
Flash Point/Range (C):	Not Determined
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

**Fire Extinguishing Media** All standard firefighting media.

**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 4, Flammability 0, Reactivity 1  
**HMS Ratings:** Health 4, Flammability 0, Reactivity 0,

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures** Use appropriate protective equipment. Wear full protective gear. Reaction can be violent and harmful vapors may be released.

**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. Do not store in containers made of fiberglass.

## 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. Rubber boots.

**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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear colorless
Odor:	Pungent irritating
pH:	0.5
Specific Gravity @ 20 C (Water=1):	1.09
Density @ 20 C (lbs./gallon):	9.08
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:	100
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):	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)	Silicone bearing materials. Strong alkalis. Contact with metals.
Hazardous Decomposition Products	Flammable hydrogen gas. Chlorine. Hydrogen fluoride. Hydrogen sulfide.
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause lungs to fill with fluids. Causes severe respiratory burns.
Skin Contact	Effects on skin may be delayed for 24-48 hours. Harmful if absorbed through the skin. Causes skin burns which may not be immediately painful or visible.
Eye Contact	Causes eye burns.
Ingestion	May cause damage to bones and teeth. Causes burns of the mouth, throat and stomach.
Aggravated Medical Conditions	Skin disorders.
Chronic Effects/Carcinogenicity	Prolonged or repeated exposure may result in fluorosis. Symptoms include nausea, vomiting, loss of appetite, diarrhea, and/or constipation. Fluorosis also results in bone density increase. Prolonged, excessive exposure may cause erosion of the teeth.
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 / 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>	TLM96: 200 ppm (Ceriodaphnia dubia)
<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, Hydrofluoric Acid), 8, II  
RQ (Hydrofluoric Acid - 4540 kg.)  
NAERG 154

#### Canadian TDG

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

#### ADR

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

## Air Transportation

### ICAO/IATA

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S., 8, II  
(Contains Hydrochloric Acid, Hydrofluoric Acid Solution)  
RQ (Hydrofluoric Acid - 4540 kg.)

## Sea Transportation

### IMDG

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Hydrofluoric Acid), 8, II  
RQ (Hydrofluoric Acid - 4540 kg.)  
EmS F-A, S-B

## Other Shipping Information

Labels: Corrosive

## 15. REGULATORY INFORMATION

### US Regulations

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EPA SARA Title III Extremely Hazardous Substances</b>	CAS: 7664-39-3//Chemical Name: Hydrogen Fluoride//TPQ: 500
<b>EPA SARA (311,312) Hazard Class</b>	Acute Health Hazard
<b>EPA SARA (313) Chemicals</b>	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: Hydrogen Fluoride//7664-39-3
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	EPA Reportable Spill Quantity is 1100 Gallons based on Hydrofluoric acid (CAS: 7664-39-3).
<b>EPA RCRA Hazardous Waste Classification</b>	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:  Corrosivity D002
<b>California Proposition 65</b>	All components listed do not apply to the California Proposition 65 Regulation.
<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.
<b>Canadian Regulations</b>	
<b>Canadian DSL Inventory</b>	All components listed on inventory.

**WHMIS Hazard Class**

E Corrosive Material  
D1B 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\*\*\***