

MATERIAL SAFETY DATA SHEET

Product Trade Name: FE ACID WITH ISOPROPANOL

Revision Date: 03-Jan-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: FE ACID WITH ISOPROPANOL
Synonyms: None
Chemical Family: Acid
Application: Acid

Manufacturer/Supplier: Halliburton Energy Services
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Isopropanol	67-63-0	5 - 10%	200 ppm	400 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 cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed. Repeated overexposure may cause liver and kidney effects.

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 laundry 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):	96
Flash Point/Range (C):	35
Flash Point Method:	PMCC
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 May be ignited by heat, sparks or flames. Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. 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 3, Flammability 3, Reactivity 0

HMS Ratings: Health 3, Flammability 3, 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. Neutralize to pH of 6-8. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid breathing vapors. Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

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 Organic vapor/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

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Color:	Clear colorless
Odor:	Pungent acrid
pH:	1
Specific Gravity @ 20 C (Water=1):	Not Determined
Density @ 20 C (lbs./gallon):	Not Determined
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:	35
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 (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 alkalis. Strong oxidizers.
Hazardous Decomposition Products	Flammable hydrogen gas. Chlorine. Hydrogen sulfide. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	Causes severe respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
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. 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	Skin disorders.
Chronic Effects/Carcinogenicity	Prolonged, excessive exposure may cause erosion of the teeth. Repeated overexposure may cause liver and kidney effects.

Other Information None known.

Toxicity Tests

Oral Toxicity:	Not determined
Dermal Toxicity:	Not determined
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air) Not determined

Persistence/Degradability Not determined

Bio-accumulation Not determined

Ecotoxicological Information

Acute Fish Toxicity:	Not determined
Acute Crustaceans Toxicity:	Not determined
Acute Algae Toxicity:	Not determined

Chemical Fate Information Not determined

Other Information Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT

UN2920, Corrosive Liquid, Flammable, N.O.S. (Contains Hydrochloric Acid, Isopropanol), 8, (3), II, (31.3 C)
RQ (Hydrofluoric Acid - 1513 kg.)
NAERG 132

Canadian TDG

Corrosive Liquid, Flammable, N.O.S. (Contains Hydrochloric Acid, Isopropanol), 8, (3), UN2920, II, (31.3 C)

ADR

UN2920, Corrosive Liquid, Flammable, N.O.S. (Contains Hydrochloric Acid, Isopropanol), 8, (3), II

Air Transportation

ICAO/IATA

UN2920, Corrosive Liquid, Flammable, N.O.S., 8, (3), II
(Contains Hydrochloric Acid, Isopropanol)
RQ (Hydrofluoric Acid - 1513 kg.)

Sea Transportation

IMDG

UN2920, Corrosive Liquid, Flammable, N.O.S. (Contains Hydrochloric Acid, Isopropanol), 8, (3), II, (31.3 C)
RQ (Hydrofluoric Acid - 1513 kg.)
EmS F-E, S-C EmS F-A, S-B

Other Transportation Information

Labels: Corrosive
Flammable Liquid

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 Chronic 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: Isopropanol//67-63-0
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 3741 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: Corrosivity D002 Ignitability D001
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	B1 Flammable gas D2B Toxic Materials 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*****