

MATERIAL SAFETY DATA SHEET

Product Trade Name: **HII-124F INTENSIFIER**

Revision Date: 20-Dec-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: HII-124F INTENSIFIER
Synonyms: None
Chemical Family: Organic acid
Application: Intensifier

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
Formic acid	64-18-6	60 - 100%	5 ppm	5 ppm

3. HAZARDS IDENTIFICATION

Hazard Overview: May cause eye, skin, and respiratory burns. May be harmful if swallowed. Flammable.

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.

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):	121
Flash Point/Range (C):	49
Flash Point Method:	Not Determined
Autoignition Temperature (F):	1114
Autoignition Temperature (C):	601
Flammability Limits in Air - Lower (%):	18
Flammability Limits in Air - Upper (%):	57
Flammability Limits in Air - Upper (oz./ft ³):	121

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

Special Exposure Hazards Decomposition in fire may produce toxic gases. 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 2, Reactivity 0
HMS Ratings: Health 3, Flammability 2, Physical Hazard 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 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 away from oxidizers. Keep container closed when not in use. Product has a shelf life of 12 months.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear colorless
Odor:	Sharp
pH:	1
Specific Gravity @ 20 C (Water=1):	1.2
Density @ 20 C (lbs./gallon):	10.05
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	215
Boiling Point/Range (C):	101
Freezing Point/Range (F):	50
Freezing Point/Range (C):	10
Vapor Pressure @ 20 C (mmHg):	23
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	100
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):	46.03

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Strong alkalis. Strong oxidizers.
Hazardous Decomposition Products	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. Causes severe respiratory burns.
Skin Contact	Causes severe burns.
Eye Contact	Causes severe 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

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	Readily biodegradable
Bio-accumulation	Not determined

Ecotoxicological Information

Acute Fish Toxicity:	96 Hr EC50 <i>Desmodesmus subspicatus</i> : 25 mg/L 72 Hr EC50 <i>Desmodesmus subspicatus</i> : 26.9 mg/L
Acute Crustaceans Toxicity:	48 Hr EC50 <i>Daphnia magna</i> : 138 - 165.6 mg/L [Static] 48 Hr EC50 <i>Daphnia magna</i> : 120 mg/L
Acute Algae Toxicity:	96 Hr EC50 <i>Desmodesmus subspicatus</i> : 25 mg/L 72 Hr EC50 <i>Desmodesmus subspicatus</i> : 26.9 mg/L

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

UN1779, Formic Acid, 8, (3), II
NAERG 153

Canadian TDG

Formic Acid, 8, (3), UN1779, II

ADR

UN1779, Formic Acid, 8, (3), II

Air Transportation

ICAO/IATA

UN1779,Formic Acid, 8, (3), II

Sea Transportation

IMDG

UN1779,Formic Acid, 8, (3), II
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
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: Formic Acid//64-18-6

EPA CERCLA/Superfund Reportable Spill Quantity EPA Reportable Spill Quantity is 553 Gallons based on Formic acid (CAS: 64-18-6).

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:

Ignitability D001
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 or are exempt.

WHMIS Hazard Class E Corrosive Material
B2 Flammable Liquids

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

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

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