

**MATERIAL SAFETY DATA SHEET****Product Trade Name:** **MSA-III****Revision Date:** 20-Dec-2012**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Trade Name:** MSA-III  
**Synonyms:** None  
**Chemical Family:** Blend  
**Application:** Corrosion Inhibitor

**Manufacturer/Supplier** Halliburton Energy Services  
P.O. Box 1431  
Duncan, Oklahoma 73536-0431  
Emergency Telephone: (281) 575-5000

**Prepared By** Chemical Compliance  
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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Polymer	Proprietary	10 - 30%	Not applicable	Not applicable
Hydrochloric acid	7647-01-0	1 - 5%	2 ppm	5 ppm
Thioglycolic acid	68-11-1	10 - 30%	TWA: 1 ppm	Not applicable
Ethoxylated alkyl amines	Proprietary	1 - 5%	Not applicable	Not applicable
Acetone	67-64-1	1 - 5%	TWA: 500 ppm STEL: 750 ppm	1000 ppm
Isopropanol	67-63-0	30 - 60%	TWA: 200 ppm STEL: 400 ppm	400 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 fatal if swallowed. May be absorbed through the skin. Repeated overexposure may cause liver and kidney effects. 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. Remove contaminated shoes and discard.

<b>Eyes</b>	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.
<b>Ingestion</b>	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.
<b>Notes to Physician</b>	Not Applicable

## 5. FIRE FIGHTING MEASURES

<b>Flash Point/Range (F):</b>	70.7
<b>Flash Point/Range (C):</b>	21.5
<b>Flash Point Method:</b>	PMCC
<b>Autoignition Temperature (F):</b>	Not Determined
<b>Autoignition Temperature (C):</b>	Not Determined
<b>Flammability Limits in Air - Lower (%):</b>	2.3
<b>Flammability Limits in Air - Upper (%):</b>	12.3

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

**Special Exposure Hazards** May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Fight fire from a safe distance and from a protected location.

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

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures** Evacuate all persons from the area. Use only competent persons for cleanup. Use appropriate protective equipment.

**Environmental Precautionary Measures** Prevent from entering sewers, waterways, or low areas. Prevent contamination of soil.

**Procedure for Cleaning / Absorption** Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Neutralize to pH of 6-8. Contain spill with sand or other inert materials. 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. Ground and bond containers when transferring from one container to another.

**Storage Information** Store away from oxidizers. Store away from alkalis. Keep from heat, sparks, and open flames. 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.

<b>Respiratory Protection</b>	Organic vapor/acid gas respirator. Positive pressure self-contained breathing apparatus in enclosed areas.
<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

<b>Physical State:</b>	Liquid
<b>Color:</b>	Red brown
<b>Odor:</b>	Mild pungent
<b>pH:</b>	< 1
<b>Specific Gravity @ 20 C (Water=1):</b>	0.94
<b>Density @ 20 C (lbs./gallon):</b>	7.83
<b>Bulk Density @ 20 C (lbs/ft3):</b>	Not Determined
<b>Boiling Point/Range (F):</b>	149
<b>Boiling Point/Range (C):</b>	65
<b>Freezing Point/Range (F):</b>	-70.6
<b>Freezing Point/Range (C):</b>	-57
<b>Vapor Pressure @ 20 C (mmHg):</b>	Not Determined
<b>Vapor Density (Air=1):</b>	Not Determined
<b>Percent Volatiles:</b>	Not Determined
<b>Evaporation Rate (Butyl Acetate=1):</b>	Not Determined
<b>Solubility in Water (g/100ml):</b>	Soluble
<b>Solubility in Solvents (g/100ml):</b>	Not Determined
<b>VOCs (lbs./gallon):</b>	Not Determined
<b>Viscosity, Dynamic @ 20 C (centipoise):</b>	Not Determined
<b>Viscosity, Kinematic @ 20 C (centistokes):</b>	Not Determined
<b>Partition Coefficient/n-Octanol/Water:</b>	Not Determined
<b>Molecular Weight (g/mole):</b>	Not Determined

## 10. STABILITY AND REACTIVITY

<b>Stability Data:</b>	Stable
<b>Hazardous Polymerization:</b>	Will Not Occur
<b>Conditions to Avoid</b>	Keep away from heat, sparks and flame.
<b>Incompatibility (Materials to Avoid)</b>	Strong oxidizers. Strong alkalis.
<b>Hazardous Decomposition Products</b>	Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.
<b>Additional Guidelines</b>	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

<b>Principle Route of Exposure</b>	Eye or skin contact, inhalation.
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Symptoms related to exposure

**Acute Toxicity****Inhalation**

Massive inhalation immediately dangerous to life and health. Causes severe respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

**Eye Contact**

Causes severe eye burns.

**Skin Contact**

Causes severe burns. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion. May cause an allergic skin reaction.

**Ingestion**

May be fatal if swallowed. Causes burns of the mouth, throat and stomach. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression.

**Chronic Effects/Carcinogenicity**

No data available to indicate product or components present at greater than 1% are chronic health hazards.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Polymer	Proprietary	No data available	No data available	No data available
Hydrochloric acid	7647-01-0	700 mg/kg (Rat) 238-277 mg/kg (Rat)	5010 mg/kg (Rabbit) >5010 mg/kg (Rabbit) 1449 mg/kg (Mouse)	3124 ppm (Rat) 1 h 3.2 mg/L (Mouse) 8.3 mg/L (aerosol) 1405 ppm (Rat) 554 ppm (Mouse)
Thioglycolic acid	68-11-1	73 mg/kg (Rat)	No data available	0.21 mg/L (Rat) 4 h
Ethoxylated alkyl amines	Proprietary	750 mg/kg (Rat)	No data available	No data available
Acetone	67-64-1	5800 mg/kg (Rat)	No data available	No data available
Isopropanol	67-63-0	4396 mg/kg (Rat) 3600 mg/kg (mouse)	12800 mg/kg (Rat) 12870 mg/kg (Rabbit)	72.6 mg/L (Rat) 4 h

**12. ECOLOGICAL INFORMATION****Ecotoxicological Information****Ecotoxicity Product**

**Acute Fish Toxicity:** EC50: 230 mg/mg (Corophium volutator)

**Acute Crustaceans Toxicity:** EC50: 2.0 mg/l (Acartia tonsa) (48 hour)

**Acute Algae Toxicity:** EC50: 1.1 mg/l (Skeletonema costatum) (72 hour)

**Ecotoxicity Substance**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Polymer	Proprietary	No information available	No information available	No information available	No information available
Hydrochloric acid	7647-01-0	EC50: 4.7 (pH) (Chlorella vulgaris) 72 h	LC50: 282 mg/L (Gambusia affinis) LC50: 20.5 mg/L (Lepomis macrochirus) LC50: 3.25 – 3.5 (pH) (Lepomis macrochirus) 96 h	No information available	EC50: 4.9 (pH) (Daphnia magna) 48 h
Thioglycolic acid	68-11-1	No information available	No information available	No information available	No information available
Ethoxylated alkyl amines	Proprietary	No information available	No information available	No information available	No information available
Acetone	67-64-1	No information available	LC50: 6210 - 8120 mg/L (Pimephales promelas)	No information available	EC50: 10294 - 17704 mg/L (Daphnia magna)
Isopropanol	67-63-0	EC50: > 1000 mg/l (Desmodesmus subspicatus)	LC50: 9640 mg/l (Pimephales promelas)	No information available	EC50: 13299 mg/l (Daphnia magna)

**12.2 Persistence and degradability**

No information available

### **12.3 Bioaccumulative potential**

No information available

### **12.4 Mobility in soil**

No information available

### **12.5 Results of PBT and vPvB assessment**

No information available.

### **12.6 Other adverse effects**

## **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**

UN2924, Flammable Liquid, Corrosive, N.O.S. (Contains Isopropanol, Thioglycolic Acid) , 3 , (8) , II , (21.5C)  
NAERG 132

#### **Canadian TDG**

Flammable Liquid, Corrosive, N.O.S. (Contains Isopropanol, Thioglycolic Acid) , 3 , (8) , UN2924 , II , (21.5C)

#### **ADR**

UN2924, Flammable Liquid, Corrosive, N.O.S (Contains Isopropanol, Thioglycolic Acid) , 3 , (8) , II

### **Air Transportation**

#### **ICAO/IATA**

UN2924, Flammable Liquid, Corrosive, N.O.S , 3 , (8) , II (Contains Isopropanol, Thioglycolic Acid)

### **Sea Transportation**

#### **IMDG**

UN2924, Flammable Liquid, Corrosive, N.O.S (Contains Isopropanol, Thioglycolic Acid) , 3 , (8) , II , (21.5C)  
EmS F-E, S-C

### **Other Transportation Information**

**Labels:** Flammable Liquid  
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>	Not applicable
<b>EPA SARA (311,312) Hazard Class</b>	Acute Health Hazard Chronic Health Hazard Fire 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: Isopropanol//67-63-0
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	Not applicable.
<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:  Ignitability D001
<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>	Product contains one or more components not listed on the inventory.
<b>WHMIS Hazard Class</b>	B2 Flammable Liquids E Corrosive Material D1B Toxic Materials D2B Toxic Materials

## 16. OTHER INFORMATION

### The following sections have been revised since the last issue of this SDS

Not applicable

<b>Additional Information</b>	For additional information on the use of this product, contact your local Halliburton representative.  For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.
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**\*\*\*END OF MSDS\*\*\***