

**MATERIAL SAFETY DATA SHEET****Product Trade Name:** MO-85M**Revision Date:** 19-Aug-2014**Revision Number:** 14**SECTION 1. Product and Company Identification****Product Identifier**

**Product Trade Name:** MO-85M  
**Synonyms:** None  
**Chemical Family:** Ester  
**Internal ID Code:** HM005396

**Product Use**

**Application:** Gelling Agent

**Manufacturer's Name and Contact Details**

**Name and Address** Halliburton Energy Services  
645 - 7th Ave SW Suite 2200  
Calgary, AB  
T2P 4G8  
Canada

**Emergency Telephone Number** (281) 575-5000

**Prepared By**

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

**SECTION 2. Hazard(s) Identification****WHMIS Classification**

**WHMIS Hazard Class** E Corrosive Material

**WHMIS Symbol(s)****Summary of hazards of the product**

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

**SECTION 3: Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Decision Granted Date
Alkyl Ester	PROPRIETARY	60 - 100%	8957	July 29, 2014

**SECTION 4. First aid measures**

**Description of first aid measures****Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration (AR), preferably mouth-to-mouth. If breathing is difficult, oxygen should be given by trained personnel. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Get medical attention.

**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.

**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.

**Ingestion**

Do not induce vomiting. Never give anything by mouth to an unconscious person. If breathing has stopped, trained personnel should begin rescue breathing / artificial respiration (AR) immediately. If the heart has stopped, trained personnel should begin CPR immediately. Obtain medical attention immediately.

**Most important symptoms and effects, both acute and delayed**

May cause eye, skin, and respiratory burns.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically

**SECTION 5. Fire Fighting Measures****Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Special hazards arising from the substance or mixture****Special Exposure Hazards**

Decomposition in fire may produce toxic gases.

**Advice for firefighters****Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**Hazardous combustion products**

Oxides of phosphorus. Carbon monoxide and carbon dioxide.

**SECTION 6. Accidental release measures****Personal precautions and emergency procedures****Protective Equipment**

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.

**SECTION 7. Handling and Storage****Precautions for safe handling**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

**Conditions for safe storage and Incompatible materials for storage**

Store away from alkalis. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 24 months.

## SECTION 8: Exposure Controls/Personal Protection

### Occupational Exposure Limits

#### Exposure Limits

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Alkyl Ester	PROPRIETARY	Not available	Not available

### Appropriate engineering controls

#### Engineering Controls

Use in a well ventilated area.

### Personal Protective Equipment (PPE)

#### Respiratory Protection

Not normally necessary.

#### Hand Protection

Impervious rubber gloves.

#### Skin Protection

Rubber apron.

#### Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

#### Other Precautions

Eyewash fountains and safety showers must be easily accessible.

## SECTION 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

**Physical State:** Liquid

**Odor:** Alcohol

**Color:** Clear colorless to pale yellow

**Odor Threshold:** No information available

#### Property

#### Remarks/ - Method

#### pH:

#### Values

**pH Concentration of Solution:**

2.3 (5%)

**Freezing Point/Range**

No information available.

**Melting Point/Range**

No information available.

**Boiling Point/Range (C):**

No information available

**Flash Point/Range (C):**

100 °C

**Flash Point Method:**

> 93 °C

**Autoignition Temperature (C):**

PMCC

**Flammability Limits in Air - Lower (%):**

No information available.

**Flammability Limits in Air - Upper (%):**

No information available.

**Evaporation Rate (Butyl Acetate=1):**

No information available.

**Vapor Pressure @ 20 C (mmHg):**

< 1

**Vapor Density (Air=1):**

1

**Specific Gravity @ 20 C (Water=1):**

> 1

**Solubility in Water (g/100ml):**

1.049

**Solubility in other solvents**

Insoluble

**Partition Coefficient/n-Octanol/Water:**

No information available.

**Decomposition Temperature (C):**

No information available.

**Viscosity**

No information available.

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

No information available

#### Other Information

**Molecular Weight (g/mole):**

No information available.

**VOC Content (%)**

No information available

## SECTION 10. Stability and Reactivity

### Conditions of Reactivity

**Conditions to Avoid**  
**Hazardous Polymerization:** None anticipated  
 Will Not Occur

**Chemical Stability**  
 Stable

**Sensitivity to Static Discharge**  
 Not available

**Sensitivity to Mechanical Impact**  
 Not available

**Incompatible materials**  
 Strong oxidizers.

**Hazardous Decomposition Products**  
 Oxides of phosphorus. Carbon monoxide and carbon dioxide.

## SECTION 11. Toxicological Information

**Routes of entry**  
 Eye or skin contact, inhalation.

**Information on Toxicological Effects**  
**Acute effects from exposure**

<b>Inhalation</b>	Causes severe respiratory irritation.
<b>Eye Contact</b>	Causes severe eye irritation May cause eye burns.
<b>Skin Contact</b>	Causes severe skin irritation. May cause skin burns.
<b>Ingestion</b>	Causes burns of the mouth, throat and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic effects from exposure**  
**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 1% are chronic health hazards.

**Irritancy of product**  
**Irritation** Corrosive to eyes Corrosive to skin

**Sensitization of product**  
**Sensitization** Not confirmed to cause skin or respiratory sensitization.

**Mutagenicity**  
 Mutagenic Effects Not regarded as mutagenic.

**Carcinogenicity**  
 Carcinogenic Effects No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA.

**Reproductive toxicity**  
 Reproductive Toxicity This product does not contain any known or suspected reproductive hazards

**Teratogenicity/embryotoxicity**  
 Teratogenic Not a confirmed teratogen or embryotoxin.

**Toxicologically synergistic material** Not available

**Acute Toxicity**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
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Alkyl Ester	PROPRIETARY	No data available	No data available	No data available
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## SECTION 12. Ecological Information

### Toxicity

#### Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Alkyl Ester	PROPRIETARY	No information available	No information available	No information available	No information available

### Persistence and Degradability

No information available

### Bioaccumulation potential

No information available

### Mobility in soil

No information available

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## SECTION 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.

## SECTION 14. Transport Information

### Canadian TDG ul0

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III  
**EMS:** EmS F-A, S-B

### IATA/ICAO

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III

### IMDG/IMO

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III  
**EMS:** EmS F-A, S-B

**Special Precautions for User:** None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

## SECTION 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Canadian Regulations**

**Canadian DSL Inventory**

Product contains one or more components not listed on the inventory.

**WHMIS Hazard Class**

E Corrosive Material

**WHMIS Symbol(s)**



**US Regulations**

**US TSCA Inventory**

Product contains one or more components not listed on the inventory.

## SECTION 16. Other Information

**Preparation Information**

**Prepared By**

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

**Revision Date:**

19-Aug-2014

Not applicable

**Additional information**

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.

**Key or legend to abbreviations and acronyms**

WHMIS: Workplace Hazardous Materials Information System

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

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