

MATERIAL SAFETY DATA SHEET

Product Trade Name: **MO-67**

Revision Date: 23-Sep-2013

Revision Number: 14

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Trade Name: MO-67
Synonyms: None
Chemical Family: Hydroxide
Internal ID Code: HM001077

Product Use

Application: Additive

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
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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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Filing Date
Sodium hydroxide	1310-73-2	10 - 30%	Not applicable	Not applicable

4. FIRST AID MEASURES

Description of 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.

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 laundry before reuse.

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.

Most important symptoms and effects, both acute and delayed

May cause eye and skin burns.

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

Treat symptomatically

5. FIRE FIGHTING MEASURES

Extinguishing media**Suitable Extinguishing Media**

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

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

May form explosive mixtures with strong acids.

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

None known.

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.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits Exposure Limits

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Sodium hydroxide	1310-73-2	2 mg/m ³	2 mg/M3

Appropriate engineering controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal Protective Equipment (PPE)

Respiratory Protection

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

Hand Protection

Impervious rubber gloves. Neoprene gloves. Nitrile gloves. Polyvinyl alcohol 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

Information on basic physical and chemical properties

Physical State: Liquid
Odor: Odorless

Color: Clear colorless
Odor Threshold: No information available

Property

Remarks/ - Method

Values

pH:

14

pH Concentration of Solution:

No information available.

Freezing Point/Range

-14 °C

Melting Point/Range

No information available

Boiling Point/Range (C):

112 °C

Flash Point/Range (C):

No information available.

Flash Point Method:

Not Determined

Autoignition Temperature (C):

No information available.

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):

110

Vapor Density (Air=1):

No information available.

Specific Gravity @ 20 C (Water=1):

1.27

Solubility in Water (g/100ml):

Soluble

Solubility in other solvents

No information available.

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

Other Information

Molecular Weight (g/mole):

No information available.

VOC Content (%)

No information available

10. STABILITY AND REACTIVITY

Conditions of Reactivity

Conditions to Avoid

None anticipated

Hazardous Polymerization: Will Not Occur

Chemical Stability
Stable

Sensitivity to Static Discharge
Not available

Sensitivity to Mechanical Impact
Not available

Incompatible materials
Strong acids. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.

Hazardous Decomposition Products
None known.

11. TOXICOLOGICAL INFORMATION

Routes of entry
Eye or skin contact, inhalation.

Information on Toxicological Effects
Acute effects from exposure

Inhalation	Causes severe respiratory irritation.
Eye Contact	Causes severe eye burns.
Skin Contact	Causes severe burns.
Ingestion	Causes burns of the mouth, throat and stomach.

Chronic effects from exposure
Chronic Effects/Carcinogenicity Prolonged, excessive exposure may cause erosion of the teeth.

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 Contains no ingredient listed as a mutagen

Carcinogenicity
Carcinogenic Effects No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.

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

Teratogenicity/embryotoxicity
Teratogenic Not a teratogen or embryotoxin.

Toxicologically synergistic material Not available

Acute Toxicity

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	1310-73-2	No data available	1350 mg/kg (Rabbit)	No data available

12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sodium hydroxide	1310-73-2	No information available	LC50: 45.4 mg/l (Oncorhynchus mykiss)	No information available	No information available

Persistence and Degradability

The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulation potential

Does not bioaccumulate

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

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

Canadian TDG

UN Number: UN1824,
UN Proper Shipping Name: Sodium Hydroxide Solution
Transport Hazard Class(es): , 8
Packing Group: , II
EMS: EmS F-A, S-B

IATA/ICAO

UN Number: UN1824,
UN Proper Shipping Name: Sodium Hydroxide Solution
Transport Hazard Class(es): , 8
Packing Group: , II

IMDG/IMO

UN Number: UN1824,
UN Proper Shipping Name: Sodium Hydroxide Solution
Transport Hazard Class(es): , 8
Packing Group: , II
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

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**

All components listed on inventory or are exempt.

WHMIS Hazard Class

E Corrosive Material

WHMIS Symbol(s)**US Regulations****US TSCA Inventory**

All components listed on inventory or are exempt.

16. OTHER INFORMATION**Preparation Information****Prepared By**

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

Revision Date:

23-Sep-2013

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 datawww.ChemADVISOR.com/**Disclaimer Statement**

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