

MATERIAL SAFETY DATA SHEET

Product Trade Name: MO-86M

Revision Date: 24-Apr-2013

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| 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING |
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Statement of Hazardous Nature Hazardous according to the criteria of NOHSC, Dangerous Goods according to the criteria of ADG.

Manufacturer/Supplier Halliburton Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: 61 (08) 9455 8300
Fax Number: 61 (08) 9455 5300

Product Emergency Telephone

Australia: 08-64244950
Papua New Guinea: 05 1 281 575 5000
NewZealand: 06-7559274

Fire, Police & Ambulance - Emergency Telephone

Australia: 000
Papua New Guinea: 000
New Zealand: 111

Identification of Substances or Preparation

Product Trade Name: MO-86M
Synonyms: None
Chemical Family: Amine
UN Number: , UN2922
Dangerous Goods Class: 8
Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule: None Allocated
Application: Gelling Agent

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

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| 2. COMPOSITION/INFORMATION ON INGREDIENTS |
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| Substances | CAS Number | PERCENT | Australia NOHSC | New Zealand WES | ACGIH TLV-TWA |
|--|-----------------|-----------|--------------------|--------------------|----------------|
| Alkyl Amine Blend in a Metal Salt Solution | HMIRC5871 Jan04 | 60 - 100% | Not applicable | Not applicable | Not applicable |

| 2. COMPOSITION/INFORMATION ON INGREDIENTS | | | | | |
|--|-------------|----------|--|--|---------------------|
| Ferric sulfate | 10028-22-5 | 30 - 60% | 1 mg/m ³ | TWA: 1 mg/m ³ | 1 mg/m ³ |
| Amine | Proprietary | 5 - 10% | TWA: 10 ppm TWA: 48 mg/m ³ | TWA: 10 ppm TWA: 48 mg/m ³ | TWA: 2 ppm |
| Dibutylaminoethanol | 102-81-8 | 5 - 10% | TWA: 2 ppm TWA: 14 mg/m ³ | TWA: 2 ppm TWA: 14 mg/m ³ | TWA: 0.5 ppm |

Non-Hazardous Substance to Total of 100%

3. HAZARDS IDENTIFICATION

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

Risk Phrases R34 Causes burns.

HSNO Classification Not Determined

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

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

Extinguishing media which must not be used for safety reasons None known.

Special Exposure Hazards 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.

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

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| 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. 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

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| Engineering Controls | Use in a well ventilated area. |
| 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. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Physical State: | Liquid |
| Color: | Brown |
| Odor: | Slight |
| pH: | 1.7 (100%) |
| Specific Gravity @ 20 C (Water=1): | 1.351 |
| Density @ 20 C (kg/l): | 1.3508 |
| Bulk Density @ 20 C (kg/m³): | Not Determined |
| Boiling Point/Range (C): | Not Determined |
| Freezing Point/Range (C): | Not Determined |
| Pour Point/Range (C): | Not Determined |
| Flash Point/Range (C): | > 93 |
| Flash Point Method: | COC |
| Autoignition Temperature (C): | Not Determined |
| Flammability Limits in Air - Lower (g/m³): | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |
| Flammability Limits in Air - Upper (g/m³): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |
| Vapor Pressure @ 20 C (mmHg): | < 1 |
| Vapor Density (Air=1): | >1 |
| Percent Volatiles: | < 30 |
| Evaporation Rate (Butyl Acetate=1): | < 1 |
| Solubility in Water (g/100ml): | Insoluble |
| Solubility in Solvents (g/100ml): | Not Determined |
| VOCs (g/l): | 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 |
| Decomposition Temperature (C): | Not Determined |

10. STABILITY AND REACTIVITY

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| Stability Data: | Stable |
| Hazardous Polymerization: | Will Not Occur |

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| Conditions to Avoid | None anticipated |
| Incompatibility (Materials to Avoid) | Strong oxidizers. |
| Hazardous Decomposition Products | Oxides of phosphorus. Carbon monoxide and carbon dioxide. |
| Additional Guidelines | Not Applicable |

11. TOXICOLOGICAL INFORMATION

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| Principle Route of Exposure | Eye or skin contact, inhalation. |
| Symptoms related to exposure | |
| Inhalation | Causes severe respiratory irritation. |
| Skin Contact | Causes severe skin irritation. May cause skin burns. |
| Eye Contact | Causes severe eye irritation May cause eye burns. |
| Ingestion | Causes burns of the mouth, throat and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. |
| Aggravated Medical Conditions | Skin disorders. |
| Chronic Effects/Carcinogenicity | No data available to indicate product or components present at greater than 1% are chronic health hazards. |
| 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

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| Mobility (Water/Soil/Air) | Not determined |
| Persistence/Degradability | Not determined |
| Bio-accumulation | Not determined |

Ecotoxicological Information

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| Acute Fish Toxicity: | Not determined |
| Acute Crustaceans Toxicity: | Not determined |

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| Acute Algae Toxicity: | Not determined |
| Chemical Fate Information | Not determined |
| Other Information | Not applicable |

13. DISPOSAL CONSIDERATIONS

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| 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

ADR

UN2922, Corrosive Liquid, Toxic, N.O.S.(Contains Ferric Sulfate, Dibutylaminoethanol), 8, (6.1), III

Air Transportation

ICAO/IATA

UN2922, Corrosive Liquid, Toxic, N.O.S., 8, (6.1), III
(Contains Ferric Sulfate, Dibutylaminoethanol)RQ (Ferric Sulfate - 1281 kg)

Sea Transportation

IMDG

UN2922, Corrosive Liquid, Toxic, N.O.S.(Contains Ferric Sulfate, Dibutylaminoethanol), 8, (6.1), III RQ (Ferric Sulfate - 1281 kg)
EmS F-A, S-B

Other Transportation Information

Labels: Corrosive
Toxic

15. REGULATORY INFORMATION

Chemical Inventories

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| Australian AICS Inventory | Product contains one or more components not listed on inventory. |
| New Zealand Inventory of Chemicals | This product does not comply with NZIOC |
| US TSCA Inventory | Product contains one or more components not listed on the inventory. |
| EINECS Inventory | This product does not comply with EINECS |

Classification C - Corrosive.

Risk Phrases R34 Causes burns.

Safety Phrases

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

16. OTHER INFORMATION

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

Not applicable

Contact**Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

New Zealand National Poisons Centre

0800 764 766

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.

Disclaimer Statement

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