

MATERIAL SAFETY DATA SHEET

Product Trade Name: SEM-8™ EMULSIFIER

Revision Date: 14-May-2013

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

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: SEM-8™ EMULSIFIER
Synonyms: None
Chemical Family: Ethoxylated alcohols Sulfate
UN Number: , UN1993
Dangerous Goods Class: 3
Subsidiary Risk: None
Hazchem Code: 3[Y]
Poisons Schedule: None Allocated
Application: Emulsifier

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances | CAS Number | PERCENT | Australia NOHSC | New Zealand WES | ACGIH TLV-TWA |
|------------|------------|---------|--------------------|--------------------|---------------|
|------------|------------|---------|--------------------|--------------------|---------------|

2. COMPOSITION/INFORMATION ON INGREDIENTS

| | | | | | |
|---|------------|-----------|---|---|-------------------------------|
| Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt | 68037-05-8 | 60 - 100% | Not applicable | Not applicable | Not applicable |
| Isopropanol | 67-63-0 | 10 - 30% | TWA: 400 ppm TWA: 983 mg/m ³ STEL: 500 ppm STEL: 1230 mg/m ³ | STEL: 500 ppm STEL: 1230 mg/m ³ TWA: 400 ppm TWA: 983 mg/m ³ | TWA: 200 ppm STEL: 400 ppm |

Non-Hazardous Substance to Total of 100%

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed. Repeated overexposure may cause liver and kidney effects. Flammable.

Risk Phrases R10 Flammable.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R67 Vapours may cause drowsiness and dizziness.

HSNO Classification 3.1C Flammable Liquids - Medium hazard 6.3A Irritating to the skin 8.3A Corrosive to ocular tissue

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 Wash with soap and water. Get medical attention if irritation persists. 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. Give nothing by mouth. Obtain immediate medical attention.

Notes to Physician Activated charcoal or gastric lavage may be advisable for significant ingestion.

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 Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

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. Wear self-contained breathing apparatus in enclosed areas.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. 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. Keep from heat, sparks, and open flames. Keep container closed when not in use. Store in a dry location. Store in a cool well ventilated area. Product has a shelf life of 24 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 Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Organic vapor respirator.
In high concentrations, supplied air respirator or a self-contained breathing apparatus.

Hand Protection Impervious rubber gloves. Nitrile gloves. Neoprene gloves. Use Viton or 4H 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

| | |
|---|--------------------|
| Physical State: | Liquid |
| Color: | Clear light yellow |
| Odor: | Alcohol |
| pH: | 7.0-8.5 @ 5% |
| Specific Gravity @ 20 C (Water=1): | 1.054 |
| Density @ 20 C (kg/l): | 1.054 |
| Bulk Density @ 20 C (kg/m³): | Not Determined |
| Boiling Point/Range (C): | Not Determined |
| Freezing Point/Range (C): | -29 |
| Pour Point/Range (C): | Not Determined |
| Flash Point/Range (C): | 33.9 |
| Flash Point Method: | SFCC ASTM D-3828 |
| Autoignition Temperature (C): | Not Determined |
| Flammability Limits in Air - Lower (g/m³): | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|----------------|
| Flammability Limits in Air - Upper (g/m ³): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |
| Vapor Pressure @ 20 C (mmHg): | 15.7 |
| Vapor Density (Air=1): | > 1 |
| Percent Volatiles: | 12 |
| Evaporation Rate (Butyl Acetate=1): | < 1 |
| Solubility in Water (g/100ml): | Soluble |
| Solubility in Solvents (g/100ml): | Not Determined |
| VOCs (g/l): | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise): | 71-79 (25C) |
| Viscosity, Kinematic @ 20 C (centistokes): | Not Determined |
| Partition Coefficient/n-Octanol/Water: | 1.4 |
| Molecular Weight (g/mole): | Not Determined |
| Decomposition Temperature (C): | Not Determined |

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

| | |
|--|---|
| Principle Route of Exposure | Eye or skin contact, inhalation. |
| <u>Symptoms related to exposure</u> Inhalation | May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness. |
| Skin Contact | May cause skin irritation. May cause skin defatting with prolonged exposure. |
| Eye Contact | May cause severe eye irritation. |
| Ingestion | Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions. May affect the heart and cardiovascular system. |
| Aggravated Medical Conditions | Skin disorders. Eye ailments. |
| Chronic Effects/Carcinogenicity | Repeated overexposure may cause liver and kidney effects. |
| 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 | COD: 149 mg O2 per 100 ppm product |
| Bio-accumulation | Not determined |

Ecotoxicological Information

| | |
|------------------------------------|--|
| Acute Fish Toxicity: | TLM96: 342 mg/l (Scophthalmus maximus) |
| Acute Crustaceans Toxicity: | TLM48: 23.3 mg/l (Acartia tonsa) |
| Acute Algae Toxicity: | EC50: 78 mg/l (Skeletonema costatum) |

| | |
|----------------------------------|----------------|
| 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. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility. |
| Contaminated Packaging | Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection. |

14. TRANSPORT INFORMATION

Land Transportation

ADR

UN1993, Flammable Liquid, N.O.S. (Contains Isopropanol), 3, III

Air Transportation

ICAO/IATA

UN1993, Flammable Liquid, N.O.S., 3, III
(Contains Isopropanol)

Sea Transportation

IMDG

UN1993, Flammable Liquid, N.O.S. (Contains Isopropanol), 3, III, (33.9 C)
EmS F-E, S-E

Other Transportation Information

Labels: Flammable Liquid

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory
New Zealand Inventory of Chemicals
US TSCA Inventory
EINECS Inventory

All components listed on inventory or are exempt.
This product does not comply with NZIOC

All components listed on inventory or are exempt.
This product, and all its components, complies with EINECS

Classification

Xi - Irritant.

Risk Phrases

R10 Flammable.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R67 Vapours may cause drowsiness and dizziness.

Safety Phrases

S2 Keep out of reach of children.
S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No Smoking.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S24/25 Avoid contact with skin and eyes.

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*****