

MATERIAL SAFETY DATA SHEET

Product Trade Name: MORFLO II SURFACTANT

Revision Date: 20-Dec-2012

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: MORFLO II SURFACTANT
Synonyms: None
Chemical Family: Blend
UN Number: , UN1212
Dangerous Goods Class: 3
Subsidiary Risk: None
Hazchem Code: 3[Y]
Poisons Schedule: None Allocated
Application: Surfactant

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
Sulfonated hydrocarbons	Proprietary	10 - 30%	Not applicable	Not applicable	Not applicable

2. COMPOSITION/INFORMATION ON INGREDIENTS

Isobutanol	78-83-1	10 - 30%	TWA: 50 ppm TWA: 152 mg/m ³	TWA: 50 ppm TWA: 152 mg/m ³	TWA: 50 ppm
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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. Flammable.

Risk Phrases
R10 Flammable.
R41 Risk of serious damage to eyes.
R37/38 Irritating to respiratory system and skin.
R67 Vapours may cause drowsiness and dizziness.

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 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.

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.

Storage Information

Store away from oxidizers. 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.

Respiratory Protection

Organic vapor respirator.

Hand Protection

Nitrile 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:	Dark red-brown
Odor:	Alcohol
pH:	10
Specific Gravity @ 20 C (Water=1):	1.05
Density @ 20 C (kg/l):	1.048
Bulk Density @ 20 C (kg/m³):	Not Determined
Boiling Point/Range (C):	100
Freezing Point/Range (C):	-21
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	35
Flash Point Method:	Not Determined
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):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	55
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Soluble
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

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

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Symptoms related to exposure	
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 severe skin irritation. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.
Eye Contact	May cause eye burns.
Ingestion	Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.
Aggravated Medical Conditions	Skin disorders. Eye ailments.
Chronic Effects/Carcinogenicity	Repeated, excessive exposure may cause liver and blood effects.
Other Information	None known.
Toxicity Tests	
Oral Toxicity:	LD50: 8564 mg/kg (Rat)
Dermal Toxicity:	LD50: 3417 mg/kg (Rabbit)
Inhalation Toxicity:	LC50: 8000 ppm/4 hr. (Rat)
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
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Persistence/Degradability Slowly biodegradable

Bio-accumulation Not determined

Ecotoxicological Information

Acute Fish Toxicity: Not determined
Acute Crustaceans Toxicity: TLM96: 330-1000 ppm (Crangon crangon)
Acute Algae Toxicity: Not determined

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.

Contaminated Packaging Product may be stored in reusable containers. Do NOT contaminate. Store away from ignition sources. Transport with all closures in place.

14. TRANSPORT INFORMATION

Land Transportation

ADR

UN1212, Isobutanol Solution, 3, III

Air Transportation

ICAO/IATA

UN1212, Isobutanol Solution, 3, III

Sea Transportation

IMDG

UN1212, Isobutanol Solution, 3, III, (35 C)
EmS F-E, S-D

Other Transportation Information

Labels: Flammable Liquid

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory All components listed on inventory or are exempt.
New Zealand Inventory of Chemicals This product does not comply with NZIOC
US TSCA Inventory All components listed on inventory or are exempt.
EINECS Inventory This product does not comply with EINECS

Classification

Xi - Irritant.

Risk Phrases

R10 Flammable.
R41 Risk of serious damage to eyes.
R37/38 Irritating to respiratory system and skin.
R67 Vapours may cause drowsiness and dizziness.

Safety Phrases

S2 Keep out of reach of children.
S13 Keep away from food, drink, and animal feeding stuffs.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S46 If swallowed, seek medical advice immediately and show this container or label.
S7/9 Keep container tightly closed and in a well-ventilated place.
S37/39 Wear suitable 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*****