

MATERIAL SAFETY DATA SHEET

Product Trade Name: MORFLO III SURFACTANT

Revision Date: 07-Feb-2014

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 III SURFACTANT
Synonyms: None
Chemical Family: Blend
UN Number: , UN2924
Dangerous Goods Class: 3
Subsidiary Risk: 8
Hazchem Code: 2[Y]E
Poisons Schedule: S5
Application: Surfactant

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

2. HAZARDS IDENTIFICATION

Hazard Overview May cause eye and skin burns. May cause headache, dizziness, and other central nervous system effects. May cause allergic skin reaction. May be harmful if swallowed. Combustible.

Classification	C - Corrosive. Xn - Harmful.
Risk Phrases	R22 Harmful if swallowed. R34 Causes burns.
Safety Phrases	S24 Avoid contact with skin. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. water
HSNO Classification	Not Determined

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	Australia NOHSC	New Zealand WES	ACGIH TLV-TWA
Dodecylbenzene sulfonic acid	27176-87-0	10 - 30%	Not applicable	Not applicable	Not applicable
1-Methoxy-2-propanol	107-98-2	10 - 30%	TWA: 100 ppm TWA: 369 mg/m ³ STEL: 150 ppm STEL: 553 mg/m ³	STEL: 150 ppm STEL: 553 mg/m ³ TWA: 100 ppm TWA: 369 mg/m ³	TWA: 100 ppm STEL: 150 ppm

Non-Hazardous Substance to Total of 100%

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 alkalis. Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Store at temperatures between 50 and 100 F (10 and 37.8 C). Do not freeze. 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	Organic vapor respirator.
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

Physical State:	Liquid
Color:	Dark amber
Odor:	Solvent
pH:	2
Specific Gravity @ 20 C (Water=1):	1.066
Density @ 20 C (kg/l):	1.066
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):	58

Flash Point Method:	PMCC
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:	56
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. Strong alkalis.
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	
Acute Toxicity	
Inhalation	Causes severe respiratory irritation.
Eye Contact	May cause eye burns.
Skin Contact	Causes severe burns. May cause an allergic skin reaction.
Ingestion	Causes burns of the mouth, throat and stomach.
Chronic Effects/Carcinogenicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dodecylbenzene sulfonic acid	27176-87-0	500 mg/kg (Rat)	No data available	No data available
1-Methoxy-2-propanol	107-98-2	5200 mg/kg (Rat)	13000 mg/kg (Rabbit)	54.6 mg/L (Rat) 4 h 24 mg/L (Rat) 1 h

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity:	Not determined
Acute Crustaceans Toxicity:	Not determined
Acute Algae Toxicity:	Not determined

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Dodecylbenzene sulfonic acid	27176-87-0	EC50: 29 mg/L (Pseudokirchneriella subcapitata)	LC50: 10.8 mg/L (Oncorhynchus mykiss); LC50: 3.5 - 10 mg/L (Brachydanio rerio); LC50: 1 mg/L (Gadus morhua)	LC50: 0.9 mg/L (Microcystis)	EC50: 5.88 mg/L (Daphnia magna)
1-Methoxy-2-propanol	107-98-2	No information available	No information available	No information available	No information available

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

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

Land Transportation

ADR

UN2924, Flammable Liquid, Corrosive, N.O.S (Contains Dodecylbenzenesulfonic Acid, Methoxypropanol) , 3 , (8) , III

Air Transportation

ICAO/IATA

UN2924, Flammable Liquid, Corrosive, N.O.S , 3 , (8) , III (Contains Dodecylbenzenesulfonic Acid, Methoxypropanol)

Sea Transportation

IMDG

UN2924, Flammable Liquid, Corrosive, N.O.S (Contains Dodecylbenzenesulfonic Acid, Methoxypropanol) , 3 , (8) , III , (58.9 C)
EmS F-E, S-C

Other Transportation Information

Labels: Flammable Liquid
Corrosive

15. REGULATORY INFORMATION

Chemical Inventories

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

Classification

C - Corrosive.

Xn - Harmful.

Risk Phrases

R22 Harmful if swallowed.

R34 Causes burns.

Safety Phrases

S24 Avoid contact with skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

water

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

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

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