

MATERIAL SAFETY DATA SHEET

Product Trade Name: MICROMAX FF

Revision Date: 05-Aug-2014

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

Statement of Hazardous Nature Non-Hazardous according to the criteria of NOHSC, Non-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: MICROMAX FF
Synonyms: None
Chemical Family: Mineral
Dangerous Goods Class: None
Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule: None Allocated
Application: Weight Additive

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

2. HAZARDS IDENTIFICATION

Statement of Hazardous Nature Non-Hazardous according to the criteria of NOHSC, Non-Dangerous Goods according to the criteria of ADG.

Hazard Overview May cause eye, skin, and respiratory irritation. May cause metal fume fever with flu-like symptoms.

Classification Xn - Harmful.

Risk Phrases R62 Possible risk of impaired fertility.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Safety Phrases None

HSNO Classification Not Determined

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	Australia NOHSC	New Zealand	ACGIH TLV-TWA
			WES		
Manganese tetraoxide	1317-35-7	60 - 100%	1 mg/m ³	1 mg/m ³	0.2 mg/m ³

Non-Hazardous Substance to Total of 100%

4. FIRST AID MEASURES

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Skin Wash with soap and water. Get medical attention if irritation persists.

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

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
All standard fire fighting media

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

Special Exposure Hazards Not applicable.

Special Protective Equipment for Fire-Fighters Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Avoid creating and breathing dust.

Environmental Precautionary Measures None known.

Procedure for Cleaning / Absorption Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions	Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust.
Storage Information	Store in a cool, dry location. Store away from acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Use in a well ventilated area. Localized ventilation should be used to control dust levels.
Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
Hand Protection	Normal work gloves.
Skin Protection	Normal work coveralls.
Eye Protection	Safety glasses.
Other Precautions	None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Powder
	90% < 5um
Color:	Red brown
Odor:	Odorless
pH:	7-10
Specific Gravity @ 20 C (Water=1):	4.8
Density @ 20 C (kg/l):	Not Determined
Bulk Density @ 20 C (kg/M3):	900-1300
Boiling Point/Range (C):	1650
Freezing Point/Range (C):	1550-1650
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	Not Determined
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:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
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

Stability Data: Stable

Hazardous Polymerization: Will Not Occur

Conditions to Avoid Avoid contact with hydrochloric acid. Can react to release chlorine gas.

Incompatibility (Materials to Avoid) None known.

Hazardous Decomposition Products None known.

Additional Guidelines Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms related to exposure

Acute Toxicity

Inhalation

May cause respiratory irritation. May cause Metal Fume Fever (if heated) which is characterized by chills, fever, aching muscles, dryness and metal taste in mouth and throat, headaches, sneezing, nausea, and irritation of the nose and trachea. May cause irritation and depression. Severe exposures may cause psychoses and mental deterioration.

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

May cause mechanical skin irritation.

Ingestion

In large amounts: May cause abdominal pain, vomiting, nausea, and diarrhea. May cause hypoglycemia.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause central nervous system and brain effects. Prolonged or repeated exposure may result in manganism. Symptoms are similar to Parkinson's disease. Prolonged or repeated exposure may cause kidney, lung and blood effects.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Manganese tetraoxide	1317-35-7	> 2000 mg/kg (Rat)	No data available	> 5.17 mg/L (Rat, 4h)

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity: EC50: > 20000 mg/kg (Abra alba)
Acute Crustaceans Toxicity: Not determined
Acute Algae Toxicity: EC50: > 10000 mg/l (Skeletonema costatum)

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates

Manganese tetraoxide	1317-35-7	EC50(72h): > 10000 mg/l (Skeletonema costatum) EC50(72h): > 100 mg/L (Desmodesmus subspicatus)	LC50(96h): > 100 mg/L (orhynchus mykiss)	No information available	EC50(48h): > 100 mg/L (Daphnia magna) LOEC(8d): 100%(Ceriodaphnia dubia)
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12.2. Persistence and degradability

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

Substances	Persistence and Degradability
Manganese tetraoxide	The methods for determining biodegradability are not applicable to inorganic substances.

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 Bury in a licensed landfill according to federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Australia Dangerous Goods

UN Number: Not restricted.
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable

IMDG/IMO

UN Number: Not restricted.
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number: Not restricted.
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable

Special Precautions for User: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory All components listed on inventory or are exempt.

New Zealand Inventory of Chemicals	All components listed on inventory or are exempt.
US TSCA Inventory	All components listed on inventory or are exempt.
EINECS Inventory	This product, and all its components, complies with EINECS
Classification	Xn - Harmful.
Risk Phrases	R62 Possible risk of impaired fertility. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Safety Phrases	None

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