

MATERIAL SAFETY DATA SHEET

Product Trade Name: **BE-4 BACTERICIDE**

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
New Zealand: 06-7559274

Fire, Police & Ambulance - Emergency Telephone

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

Identification of Substances or Preparation

Product Trade Name: BE-4 BACTERICIDE
Synonyms: None
Chemical Family: Amine
UN Number: , UN2810
Dangerous Goods Class: 6.1
Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule: None Allocated
Application: Biocide

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 |
|---|------------|-----------|--------------------|--------------------|----------------|
| Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine | 4719-04-4 | 60 - 100% | Not applicable | Not applicable | Not applicable |

Non-Hazardous Substance to Total of 100%

3. HAZARDS IDENTIFICATION

| | |
|----------------------------|--|
| Hazard Overview | May cause eye and skin burns. May cause respiratory irritation. May be harmful if swallowed. May cause allergic skin reaction. |
| Risk Phrases | R22 Harmful if swallowed. R23 Toxic by inhalation. R43 May cause sensitization by skin contact. |
| 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 laundry 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. 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 acids. Store away from oxidizers. Store away from direct sunlight.
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 | 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: | Clear light yellow |
| Odor: | Amine |
| pH: | 11 |
| Specific Gravity @ 20 C (Water=1): | 1.16 |
| Density @ 20 C (kg/l): | 1.16 |
| Bulk Density @ 20 C (kg/m³): | Not Determined |
| Boiling Point/Range (C): | Not Determined |
| Freezing Point/Range (C): | -35 |
| 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: | 2 |
| 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. Avoid contact with metals such as aluminum, tin, lead, brass, bronze, copper, and zinc. |

| | |
|---|--|
| Incompatibility (Materials to Avoid) | Strong oxidizers. Strong acids. |
| Hazardous Decomposition Products | Oxides of nitrogen. Formaldehyde. Acetic acid. 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 | Causes severe respiratory irritation. |
| Skin Contact | Causes severe skin irritation. May cause skin burns. May cause an allergic skin reaction. |
| 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: | LC50: 0.62 mg/l /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 |
| Persistence/Degradability | Not determined |
| Bio-accumulation | Not determined |

Ecotoxicological Information

| | |
|------------------------------------|----------------|
| Acute Fish Toxicity: | Not determined |
| Acute Crustaceans Toxicity: | Not determined |
| 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 Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

ADR

UN2810, Toxic Liquid, Organic, N.O.S. (Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine), 6.1, II

Air Transportation

ICAO/IATA

UN2810, Toxic Liquid, Organic, N.O.S., 6.1, II
(Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine)

Sea Transportation

IMDG

UN2810, Toxic Liquid, Organic, N.O.S. (Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine), 6.1, II
EmS F-A, S-A

Other Transportation Information

Labels: Toxic

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, and all its components, complies with EINECS |

Classification T - Toxic.

Risk Phrases

R22 Harmful if swallowed.
R23 Toxic by inhalation.
R43 May cause sensitization by skin contact.

Safety Phrases

S2 Keep out of reach of children.
S23 Do not breathe gas, fumes, vapour or spray.
S24 Avoid contact with skin.
S37 Wear suitable gloves.

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*****