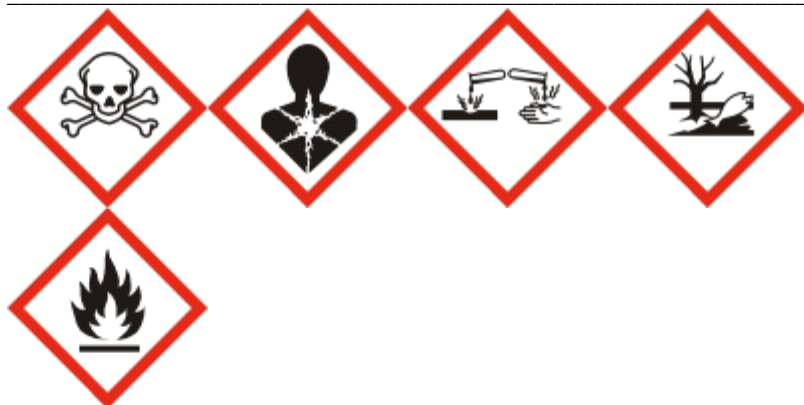


SAFETY DATA SHEET**BE-6™ Bactericide**

Revision Date: 09-Oct-2014

Revision Number: 21

1. Product and Company Identification**Product Name****Product Trade Name:** BE-6™ Bactericide**Other Names****Synonyms:** None**Product Code:** HM000124**Recommended Use****Recommended Use** Microbiocide**Uses Advised Against** No information available**Company Name, Address and Contact Details****Manufacturer/Supplier** Halliburton New Zealand
1 Paraite Rd,
Bell Block, New Plymouth
New Zealand Registration No.: 824207**E-Mail address:** fdunexchem@halliburton.com**Emergency Telephone Number** +64-6-7559274**New Zealand National Poisons
Centre** 0800 764 766 (24 hours)**2. Hazard(s) Identification****Statement of Hazardous Nature**Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulation 2001;
Classified as dangerous good according to NZS 5433:2012, UN, IMDG or IATA**Classification**4.1.1B Flammable Solids
6.1C (Oral) Acutely Toxic Substances
6.1D (Dermal) Acutely Toxic Substances
6.1E (Inhalation) Acutely Toxic Substances
6.3A Irritating to the skin
6.9B Harmful to human target organs or systems
8.3A Corrosive to ocular tissue
9.1A Very ecotoxic in the aquatic environment
9.3B Ecotoxic to terrestrial invertebrates**Hazard and Precautionary Statements****Hazard Pictograms**

**Signal Word**

Danger

Hazard Statements

H228 - Flammable solid
 H301 - Toxic if swallowed
 H312 - Harmful in contact with skin
 H315 - Causes skin irritation
 H318 - Causes serious eye damage
 H333 - May be harmful if inhaled
 H373 - May cause damage to organs through prolonged or repeated exposure
 H400 - Very toxic to aquatic life
 H432 - Toxic to the terrestrial vertebrates.

Precautionary Statements**Prevention**

P101 - If medical advice is needed, have product container or label at hand
 P102 - Keep out of reach of children
 P103 - Read label before use
 P104 - Read Safety Data Sheet before use
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P240 - Ground/Bond container and receiving equipment
 P241 - Use explosion-proof electrical/ventilating/lighting/equipment
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P280 - Wear protective gloves/eye protection/face protection

Response

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 P330 - Rinse mouth
 P331 - Do NOT induce vomiting
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell
 P304 + P312 - IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell
 P362 - Take off contaminated clothing and wash before reuse
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P370 + P378 - In case of fire: Use water spray for extinction

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/container to an approved incineration plant

Contains

Substances	CAS Number	Substance HSNO Classification
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2-Bromo-2-nitro-1,3-propanediol	52-51-7	4.1.1B 6.1C (Oral) 6.1D (Dermal) 6.1D (Inhalation) 6.3A 6.9B 8.3A 9.1A 9.3B
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2.3. Other Hazards

None known

3. Composition and Information on Ingredients
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Substances	CAS Number	PERCENT (w/w)
2-Bromo-2-nitro-1,3-propanediol	52-51-7	60 - 100%

4. First-Aid Measures

Requirements for First Aid or Medical Care**Inhalation**

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

Eyes

Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

Skin

Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.

Ingestion

Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

Workplace Facilities Required

None

Relation to Health Effect**Most Important Symptoms/Effects**

May cause eye and skin burns. May cause respiratory irritation May be harmful if swallowed. May be absorbed through the skin.

Medical Attention and Special Treatment**Notes to Physician**

Treat symptomatically

5. Fire-fighting measures

Type of Hazard**Flammability Hazard**

Flammable Solid

5.1. Extinguishing media**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

HAZCHEM Code

Hazchem Code: 2XE

Special Protective Equipment and Precautions for Fire Fighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

Special Exposure Hazards

Decomposition in fire may produce toxic gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

6. Spillage, Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.
See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove. Flush area with water.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

7. Handling and Storage

7.1. Precautions for Safe Handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. Launder contaminated clothing before reuse.

Handling Practices

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Approved Handlers

This product does NOT require an approved handler.

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Store in a cool, dry location. Store in a well ventilated area. Store locked up. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Store at temperatures below 104 F (40 C) and 140 F (60 C) for short periods. Product has a shelf life of 48 months.

Store Site Requirements

No special controls required

Packaging

No special packaging required

8. Exposure Controls and Personal Protection

Workplace Exposure Standards

Exposure Limits

Substances	CAS Number	New Zealand WES	ACGIH TLV-TWA
2-Bromo-2-nitro-1,3-propanedi ol	52-51-7	Not applicable	Not applicable

Engineering Controls

Engineering Controls

Use in a well ventilated area.

Personal Protective Equipment (PPE)

Respiratory Protection

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Organic vapor respirator with a dust/mist filter. (A2P2/P3)

Neoprene gloves. Nitrile gloves. Polyvinylchloride gloves.

Normal work coveralls.

Dust proof goggles.

Eyewash fountains and safety showers must be easily accessible. Rubber boots

Handle in accordance with good industrial hygiene and safety practice

Hand Protection

Skin Protection

Eye Protection

Other Precautions

Hygiene Measures

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Solid Powder

Color: White

Odor: Characteristic

Odor Threshold: No information available

Property

Values

Remarks/ - Method

pH:

5 - 7

Freezing Point/Range

130 °C

Melting Point/Range

No data available

Boiling Point/Range

> 130

Flash Point

> 93 PMCC

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

> 1

Specific Gravity

1.1

Water Solubility

Soluble in water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

0.18

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2. Other information

VOC Content (%)

No data available

10. Stability and Reactivity

10.2. Chemical Stability

Stable

10.4. Conditions to Avoid

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong oxidizers. Contact with alkalis. Contact with metals. Amines.

10.6. Hazardous Decomposition Products

Oxides of nitrogen. Bromine. Hydrogen bromide. Carbon monoxide and carbon dioxide. Formaldehyde.

Hazardous Reactions

Hazardous Polymerization: Will Not Occur

11. Toxicological Information

Health Effect from Likely Routes of Exposure

Acute Toxicity

Inhalation

May cause respiratory irritation.

Eye Contact

May cause eye burns.

Skin Contact

May cause severe skin irritation. May cause skin defatting with prolonged exposure. May cause skin burns on prolonged contact.

Ingestion

Causes burns of the mouth, throat and stomach. May be fatal if swallowed.

Chronic Effects/Carcinogenicity

Twenty milligrams per kilogram of 1, 3-Propanediol, 2-bromo-2-nitro-, given orally daily for 90 days, to male and female rats, is well tolerated. Doses of 80 and 160 mg/kg produces gastrointestinal lesions, respiratory distress, and some deaths.

Toxicity Data

(rat)

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Bromo-2-nitro-1,3-propanediol	52-51-7	305 mg/kg (Rat) 307 mg/kg (Rat)	1600 mg/kg (Rat)	> 0.588 mg/L (Rat, 4h)

12. Ecological Information**12.1. Toxicity****Ecotoxicity Effects****Product Ecotoxicity Data**

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
2-Bromo-2-nitro-1,3-propanediol	52-51-7	EC50(72h): 0.25 mg/L (Skeletonema costatum) EC50(72h): 0.37 mg/L (Pseudokirchnerella subcapitata) EC50(72h): 0.89 mg/L (Chlorella vulgaris)	LC50(96h): 58 mg/L (Pimephales promelas) LC50(96h): 35.7 mg/L (Lepomis macrochirus) LC50(96h): 41.2 mg/L (Oncorhynchus mykiss) LC50(96h): 57.6 mg/L (Cyprinodon variegatus) NOEC(49d): 21.5 mg/L (Oncorhynchus mykiss)	EC20(150m): 2 mg/L ((Activated Sludge, Respiration Inhibition)	EC50(48h): 1.4 mg/L (Daphnia magna) EC50(48h): 3.5 mg/L (Acartia tonsa) NOEC(21d): 0.27 mg/L (Daphnia magna)

12.2. Persistence and degradability

THOD (100 ppm Conc.): 60 mg

Substances	CAS Number	Persistence and Degradability
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Readily biodegradable (70-80% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
2-Bromo-2-nitro-1,3-propanediol	52-51-7	0.18 - 0.22

12.4. Mobility in soil

No information available

Ecotoxicity Hazard Statements

Very toxic to aquatic life

12.6. Other adverse effects**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations**13.1. Waste treatment methods****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

IMDG/IMO

UN Number: UN3241
UN Proper Shipping Name: 2-Bromo-2-Nitropropane-1,3-Diol
Transport Hazard Class(es): 4.1
Packing Group: III
Environmental Hazards: Not applicable
EMS: EmS F-J, S-G

NZ 5433.1999

UN Number: UN3241
UN Proper Shipping Name: 2-Bromo-2-Nitropropane-1,3-Diol
Transport Hazard Class(es): 4.1
Packing Group: III

IATA/ICAO

UN Number: UN3241
UN Proper Shipping Name: 2-Bromo-2-Nitropropane-1,3-Diol
Transport Hazard Class(es): 4.1
Packing Group: III

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

New Zealand Inventory of Chemicals All components listed on inventory or are exempt.

HSNO Approval Number HSR002523

Group Name Class 4 Substances (Toxic 6.1 HSR002523)

HSNO Controls Refer to the NZ EPA website for more information: <http://www.epa.govt.nz>

Approved Handlers Not Applicable

Poisons Schedule: None Allocated

16. Other information, including date of preparation or last revision

The following sections have been revised since the last issue of this SDS

Section 7. Handling and Storage

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.

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Revision Date: 09-Oct-2014

Revision Note

Update to Format SECTION: 8

Disclaimer Statement

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End of Safety Data Sheet