

## SAFETY DATA SHEET

**Product Trade Name:**  
**BE-3S BACTERICIDE**

**Revision Date:**  
16-Oct-2017

**Revision Number:**  
2

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

**Product Identifier**

**Product Trade Name:**  
BE-3S BACTERICIDE

**Synonyms**

None

**Chemical Family**

Blend

**Internal ID Code**

HB000119

**Recommended use and restrictions on use**

**Application**

Biocide

**Uses advised against**

No information available

**Manufacturer's Name and Contact Details**

**Manufacturer/Supplier**

Halliburton Energy Services  
14th Floor, CitiBank Tower, Al-Qutayat Street  
Dubai, UAE  
Telephone Number : +971 43036666

**Additional Information**

**Prepared By**

Chemical Stewardship  
Telephone: 1-281-871-6107  
e-mail: fdunexchem@halliburton.com

**Emergency Telephone Number**

1-760-476-3959  
Global Incident Response Access Code: 334305  
Contract Number: 14012

### 2. HAZARDS IDENTIFICATION

**Classification**

Acute Oral Toxicity	Category 3 - H301
Acute Inhalation Toxicity - Dusts and Mists	Category 2 - H330
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Acute Aquatic Toxicity	Category 1 - H400
Chronic Aquatic Toxicity	Category 3 - H412

**Hazard Pictograms**

(Bad file name)

**Signal Word**

Danger

**Hazard Statements**

H301 - Toxic if swallowed  
 H314 - Causes severe skin burns and eye damage  
 H317 - May cause an allergic skin reaction  
 H318 - Causes serious eye damage  
 H330 - Fatal if inhaled  
 H335 - May cause respiratory irritation  
 H400 - Very toxic to aquatic life  
 H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements****Prevention**

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  
 P271 - Use only outdoors or in a well-ventilated area  
 P272 - Contaminated work clothing should not be allowed out of the workplace  
 P273 - Avoid release to the environment  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P284 -[In case of inadequate ventilation] wear respiratory protection.

**Response**

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 P302 + P352 - IF ON SKIN: Wash with plenty of water.  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
 P362 + P364 - Take off contaminated clothing and wash before reuse  
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/physician  
 P391 - Collect spillage

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up

**Disposal**

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains****Substances**

2,2 Dibromo-3-nitropropionamide  
 2-Monobromo-3-nitropropionamide

**CAS Number**

10222-01-2  
 1113-55-9

**Additional Information**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances	CAS Number	PERCENT (w/w)	GHS Classification
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	60 - 100%	Acute Tox. 3 (H301) Acute Tox. 2 (H330) Skin Corr. 1 (H314) Eye Corr. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335) Aquatic Acute 1 (H400)
2-Monobromo-3-nitrilopropionamide	1113-55-9	1 - 5%	Acute Tox. 3 (H301) Acute Tox. 2 (H330) Skin Irrit. 2 (H315) Eye Irrit. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

**4. FIRST AID MEASURES****First-aid Measures****Inhalation**

If inhaled, move victim to fresh air and seek medical attention.

**Skin**

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.

**Eyes**

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

**Ingestion**

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. Rinse mouth with water many times. Get immediate medical attention.

**Most important symptoms and effects, both acute and delayed**

Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction. May cause allergic skin reaction. May cause respiratory irritation. Toxic if swallowed. May be fatal if inhaled.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically.

**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.

**Specific hazards arising from the chemical**

Decomposition in fire may produce harmful 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.

**Special protective actions for fire-fighters**

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

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin,

eyes and clothing. Evacuate all persons from the area.

**Environmental Precautions**

Prevent from entering sewers, waterways, or low areas. Consult local authorities.

**Methods and material for containment and cleaning up**

Scoop up and remove.

**Additional Information**

See Section 8 and 13 for additional information.

## **7. HANDLING AND STORAGE**

**Precautions for safe handling**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wear appropriate respirator when opening containers. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Conditions for safe storage, including any incompatibilities**

Keep container closed when not in use. Store in a cool, dry location. Store in a well ventilated area. Store away from oxidizers. Store away from reducing agents. Store away from direct sunlight. Product has a shelf life of 6 months.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters****Exposure Limits****Appropriate engineering controls**

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Individual protection measures, such as personal protective equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**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.

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

**Hand Protection**

Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.35 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.

**Skin Protection**

Rubber apron. Long-sleeve shirt, long pants, and shoes plus socks.

**Eye Protection**

Dust proof goggles.

**Other Precautions**

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

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:**

Powder

**Color**

White to yellow

**Odor:**

Slight Pungent

**Odor Threshold:**

No information available

**pH:**

4.7-4.9

**Specific Gravity**

2.2

**Freezing Point/Range (°C):**

No information available

**Boiling Point/Range (C):**

No information available

**Flash Point/Range (°C):**

&gt; 100

**Flash Point Method:**

COC

**Flammability Limits in Air - Lower (%):**

No information available

**Flammability Limits in Air - Upper (%):**

No information available

**Autoignition Temperature (°C):**

No information available

**Evaporation Rate (Butyl Acetate=1):**

No information available

**Vapor Pressure @ 20 C (mmHg):**

No information available

**Vapor Density (Air=1):**

.934

**Water Solubility**

Partly soluble

**Decomposition Temperature (C):**

No information available

**Viscosity, Dynamic @ 20 C (centipoise):**

No information available

**Viscosity, Kinematic @ 20 C (centistokes):**

No information available

**Partition Coefficient/n-Octanol/Water:**

No information available

**Molecular Weight (g/mole):**

No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not expected to be reactive.

**Chemical Stability**

Stable

**Possibility of hazardous reactions**

Will Not Occur

**Conditions to Avoid**

Keep away from heat, sparks and flame.

**Incompatible materials**

Strong oxidizers. Reducing agents.

**Hazardous decomposition products**

Oxides of nitrogen. Bromine. Hydrogen bromide. Methyl and ethyl bromide. Cyanogen bromide. Carbon monoxide and carbon dioxide.

**Additional Guidelines**

Not Applicable

**11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity****Inhalation**

Fatal if inhaled. Causes severe respiratory irritation.

**Eye Contact**

Causes severe eye irritation which may damage tissue.

**Skin Contact**

Causes severe burns. May cause an allergic skin reaction.

**Ingestion**

Toxic if swallowed. Causes burns of the mouth, throat and stomach.

**Chronic Effects/Carcinogenicity**

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
2,2-Dibromo-3-nitropropionamide	10222-01-2	235 mg/kg 206.5 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	0.32 mg/L (rat, mist, 4hr)
2-Monobromo-3-nitropropionamide	1113-55-9	206.5 mg/kg (Rat) (similar substance)	>2000 mg/kg (Rabbit) (similar substance)	0.32 mg/L (Rat) 4h (similar substance)

Substances	CAS Number	Skin corrosion/irritation
2,2-Dibromo-3-nitropropionamide	10222-01-2	Skin, rabbit: Causes moderate skin irritation.
2-Monobromo-3-nitropropionamide	1113-55-9	Skin, rabbit: Causes moderate skin irritation. (similar substances)

Substances	CAS Number	Serious eye damage/irritation
2,2-Dibromo-3-nitropropionamide	10222-01-2	Eye, rabbit: Causes moderate eye irritation
2-Monobromo-3-nitropropionamide	1113-55-9	Eye, rabbit: Causes severe eye irritation (similar substances)

Substances	CAS Number	Skin Sensitization
2,2-Dibromo-3-nitropropionamide	10222-01-2	Skin sensitizer in guinea pig.
2-Monobromo-3-nitropropionamide	1113-55-9	Skin sensitizer in guinea pig. (similar substances)

Substances	CAS Number	Respiratory Sensitization
2,2-Dibromo-3-nitropropionamide	10222-01-2	No information available
2-Monobromo-3-nitropropionamide	1113-55-9	No information available

Substances	CAS Number	Mutagenic Effects
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2,2 Dibromo-3-nitrilopropionamide	10222-01-2	Not regarded as mutagenic.
2-Monobromo-3-nitrilopropionamide	1113-55-9	Not regarded as mutagenic. (similar substances)

Substances	CAS Number	Carcinogenic Effects
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	No information available
2-Monobromo-3-nitrilopropionamide	1113-55-9	No information available

Substances	CAS Number	Reproductive toxicity
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	No data of sufficient quality are available.
2-Monobromo-3-nitrilopropionamide	1113-55-9	No data of sufficient quality are available.

Substances	CAS Number	STOT - single exposure
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	May cause respiratory irritation.
2-Monobromo-3-nitrilopropionamide	1113-55-9	May cause respiratory irritation. (similar substances)

Substances	CAS Number	STOT - repeated exposure
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	No significant toxicity observed in animal studies at concentration requiring classification.
2-Monobromo-3-nitrilopropionamide	1113-55-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	Not applicable
2-Monobromo-3-nitrilopropionamide	1113-55-9	Not applicable

## 12. ECOLOGICAL INFORMATION

### Toxicity

**Ecotoxicity effects** Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
2,2 Dibromo-3-nitrilopropionamide	10222-01-2	EC50 (96 h) 0.3 mg/L (Selenastrum capricornutum)	LC50 (96 h) 1 mg/L (Rainbow trout) MATC (NA)=0.47 mg/L (Rainbow trout)	No information available	LC50 (48 h) 0.9 mg/L (Daphnia magna) EC50 (48 h) 0.72 mg/L (Mysidopsis Bahia)
2-Monobromo-3-nitrilopropionamide	1113-55-9	EC50 (96h) 0.3 mg/L (Selenastrum capricornutum)	LC50 1 mg/L (Rainbow trout)(similar substance) MATC 0.47 - 0.98 mg/L (Rainbow trout)(similar substance)	No information available	EC50 0.9 mg/L (Daphnia magna)(similar substance) EC50 0.72 mg/L (Mysidopsis bahia) (similar substance) EC50 < 0.07 mg/L (Crassostrea virginica) (similar substance) NOEL < 0.02 mg/L (Daphnia magna)(similar substance)

**Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	No information available
2-Monobromo-3-nitrilopropionamide	1113-55-9	No information available

**Bioaccumulation potential**

Substances	CAS Number	Log Pow
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	BCF=13
2-Monobromo-3-nitrilopropionamide	1113-55-9	No information available

**Mobility in soil**

Substances	CAS Number	Mobility
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	No information available
2-Monobromo-3-nitrilopropionamide	1113-55-9	No information available

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Contaminated Packaging**

Follow all applicable national or local regulations.

**Other Information**

No information available

**14. TRANSPORT INFORMATION****UN Number**

UN2928

**UN proper shipping name:**

Toxic Solid, Corrosive, Organic, N.O.S.

(2, 2-Dibromo-3-Nitrilopropionamide)

**Transport Hazard Class(es):**

6.1 (8)

**Packing Group:**

II

**Environmental Hazards:**

Marine Pollutant

**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****Regulatory Information**

This SDS was prepared in accordance with United Nations "Globally Harmonized System of Classification and Labelling of



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Chemicals (GHS)" and its revisions.

## 16. OTHER INFORMATION

### Key literature references and sources for data

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

### Revision Date:

16-Oct-2017

### Revision Note

SDS sections updated:

2

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**End of Safety Data Sheet**