

# SAFETY DATA SHEET



Revision Date 25-Apr-2016  
Version 1.01

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Product name BIOGUARD ULS MICROBIOCIDE  
Product code BGDULS201

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fuel additive  
Restrictions on use No information available

### 1.3 Details of the supplier of the safety data sheet

Supplier ValvTect Petroleum Products  
A Division of Kop-Coat, Inc.  
1608 Barclay Boulevard  
Buffalo Grove, IL 60089  
(847) 272-2278

### 1.4 Emergency telephone number

Emergency telephone number Chemtrec: +1 703-527-3887 ex-USA  
Chemtrec: 1-800-424-9300 USA

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Flammable liquids	Category 4

### 2.2 Label elements

#### Signal Word

Danger

#### Hazard Statements

Harmful if swallowed  
Toxic in contact with skin

Harmful if inhaled  
 Causes skin irritation  
 Causes serious eye damage  
 May cause an allergic skin reaction  
 Combustible liquid



#### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Contaminated work clothing should not be allowed out of the workplace  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking

#### Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician  
 IF ON SKIN: Wash with plenty of soap and water  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 Remove/Take off immediately all contaminated clothing  
 Wash contaminated clothing before reuse  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Precautionary Statements - Storage

Store locked up  
 Store in a well-ventilated place. Keep cool

#### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

#### 2.3. Other Hazards Hazards not otherwise classified (HNOC)

Not Applicable

#### 2.4 Other information

Not Applicable

#### Unknown Acute Toxicity

< 1% of the mixture consists of ingredient(s) of unknown toxicity

### 3. Composition/Information on Ingredients

#### Substance

Not applicable

#### Mixture

Chemical Name	CAS-No	Weight %
---------------	--------	----------

4-(2-Nitrobutyl) morpholine	2224-44-4	80 - 90
Methylene Dimorpholine	5625-90-1	5 - 10
Morpholine	110-91-8	5 - 10
4,4'-(2-Ethyl-2-Nitropropane-1,3-diyl)bismorpholine	1854-23-5	5 - 10
1-Nitropropane	108-03-2	1 - 5

The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First aid measures

### 4.1 Description of first-aid measures

<b>General advice</b>	For further assistance, contact your local Poison Control Center.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician or poison control center immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a physician if irritation develops or persists.
<b>Inhalation</b>	Move victim to fresh air. If not breathing, give artificial respiration. Seek immediate medical attention/advice.
<b>Ingestion</b>	Gently wipe or rinse the inside of the mouth with water. Never give fluids if the victim is unconscious or having convulsions. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician or poison control center immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

**Symptoms** See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** There is no specific antidote for effects from overexposure to this material. Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire. Water spray or fog.

**Unsuitable Extinguishing Media** Water may be unsuitable for extinguishing fires.

### 5.2 Special hazards arising from the substance or mixture

#### Special Hazard

Thermal decomposition can lead to release of irritating gases and vapors Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks)

**Hazardous Combustion Products** Possible formation of carbon oxides, nitrogen oxides, and hazardous organic compounds.

#### Explosion Data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** Yes.

### 5.3 Advice for firefighters

Evacuate personnel to safe areas. Move non-burning material, as feasible, to a safe location as soon as possible. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Thoroughly decontaminate all protective equipment after use. DO NOT extinguish a fire resulting from the flow of flammable liquid until the flow of the liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished.

## 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Refer to protective measures listed in sections 7 and 8. Avoid exceeding of the given occupational exposure limits (see section 8). Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill.

### 6.2 Environmental precautions

Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.

### 6.3 Methods and materials for containment and cleaning up

**Methods for Containment** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

**Methods for cleaning up** Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Ground and bond containers when transferring material. Take precautionary measures against static discharges.

## 7. Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. Take measures to prevent the build up of electrostatic charge.

**Hygiene measures** Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs.

**Materials to Avoid** Oxidizing agents. Strong acids.

## 8. Exposure controls/personal protection

### 8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Morpholine 110-91-8	TWA: 20 ppm S*	TWA: 20 ppm TWA: 70 mg/m <sup>3</sup> S*	TWA: 20 ppm Skin	TWA: 20 ppm TWA: 71 mg/m <sup>3</sup> Skin	TWA: 20 ppm TWA: 71 mg/m <sup>3</sup> Skin	TWA: 20 ppm Skin

1-Nitropropane 108-03-2	TWA: 25 ppm	TWA: 25 ppm TWA: 90 mg/m <sup>3</sup>	TWA: 25 ppm	TWA: 25 ppm TWA: 91 mg/m <sup>3</sup>	TWA: 25 ppm TWA: 91 mg/m <sup>3</sup>	TWA: 25 ppm
----------------------------	-------------	--	-------------	--	--	-------------

## 8.2 Appropriate engineering controls

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

## 8.3 Individual protection measures, such as personal protective equipment

<b>Eye/Face Protection</b>	Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to handling and processing of material.
<b>Skin and body protection</b>	Wear impervious gloves and/or clothing if needed to prevent contact with the material. Rubber/latex/neoprene or other suitable chemical resistant gloves. Remove and wash contaminated clothing before re-use. Cotton-blend coveralls.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	See section 7 for more information

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	No information available
<b>Color</b>	Yellow
<b>Odor</b>	Amine
<b>Odor Threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
<b>pH</b>	9.5	
<b>Melting/freezing point</b>		No information available
<b>Boiling point/boiling range</b>	175 °C / 347 °F	
<b>Flash Point</b>	>= 71 °C / >= 160 °F	
<b>Evaporation rate</b>		No information available
<b>Flammability (solid, gas)</b>		No information available
<b>Flammability Limits in Air</b>		
upper flammability limit		No information available
lower flammability limit		No information available
<b>Vapor pressure</b>		No information available
<b>Vapor density</b>		No information available
<b>Specific Gravity</b>	1.1	
<b>Water solubility</b>		No information available
<b>Solubility in other solvents</b>		No information available
<b>Partition coefficient</b>		No information available
<b>Autoignition temperature</b>		No information available
<b>Decomposition temperature</b>		No information available
<b>Viscosity, kinematic</b>		No information available
<b>Viscosity, dynamic</b>		No information available
<b>Explosive properties</b>		No information available
<b>Oxidizing Properties</b>		No information available

### 9.2 Other information

**Volatile organic compounds (VOC) content** No information available

## 10. Stability and Reactivity

**10.1 Reactivity**

No dangerous reaction known under conditions of normal use

**10.2 Chemical stability**

Stable under recommended storage conditions

**10.3 Possibility of hazardous reactions**

None under normal processing.

**10.4 Conditions to Avoid**

Keep away from heat, sparks and flames. The product may crystallize if it is stored for a long time. Avoid temperatures above 35 °C. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases.

**10.5 Incompatible Materials**

Oxidizing agents. Strong acids.

**10.6 Hazardous Decomposition Products**

None under normal use conditions. Thermal decomposition can lead to release of irritating gases and vapors.

## 11. Toxicological information

**11.1 Acute toxicity****Numerical measures of toxicity: Product Information**

<b>LD50 Oral:</b> 620 mg/kg	<b>LD50 Dermal:</b> 420 mg/kg	<b>LC50 (Dust/Mist)</b> > 2.33 mg/L (4 hours)	<b>LC50 (Vapor)</b>
--------------------------------	----------------------------------	--	---------------------

The following values are calculated based on chapter 3.1 of the GHS document

**Unknown Acute Toxicity** < 1% of the mixture consists of ingredient(s) of unknown toxicity

**Numerical measures of toxicity: Component Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Morpholine 110-91-8	1050 mg/kg ( Rat )	310 - 810 mg/kg ( Rabbit )	= 8000 ppm ( Rat ) 8 h
1-Nitropropane 108-03-2	455 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 11.02 mg/L ( Rat ) 1 h

**11.2 Information on toxicological effects****Skin corrosion/irritation**Product Information

- No information available

Component Information

- No information available

**Serious eye damage/eye irritation**Product Information

- No information available

Component Information

- No information available

**Respiratory or skin sensitization**Product Information

- No information available

Component Information

- No information available

**Germ cell mutagenicity**Product Information

- No information available

Component Information

- No information available

**Carcinogenicity**Product Information

- No information available

Component Information

- No information available

**Reproductive toxicity**Product Information

- No information available

Component Information

- No information available

**STOT - single exposure**

No information available

**STOT - repeated exposure**

- No information available

**Other adverse effects**Product Information

- No information available

Component Information

- No information available

**Aspiration hazard**Product Information

- No information available

Component Information

- No information available

## 12. Ecological information

**12.1 Toxicity****Ecotoxicity**

No information available

10.7 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

**Ecotoxicity effects**

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Morpholine 110-91-8	EC50: 96 h Pseudokirchneriella subcapitata 28 mg/L static	LC50: 96 h Lepomis macrochirus 350 mg/L static LC50: 96 h Oncorhynchus mykiss 375 - 460 mg/L LC50: 96 h Brachydanio rerio 1000 mg/L static	-
1-Nitropropane 108-03-2	EC50: 72 h Desmodesmus subspicatus 98 mg/L	-	-

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

Discharge into the environment must be avoided

Chemical Name	log Pow
Morpholine 110-91-8	-2.55
1-Nitropropane 108-03-2	0.851

**12.4 Mobility in soil**

No information available.

**12.5 Other adverse effects**

No information available

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

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**14. Transport Information****DOT**

**Proper shipping name** UN3142, Disinfectant, liquid, toxic, n.o.s. (4-(2-nitrobutyl)morpholine), 6.1, III

**MEX**

no data available

**IMDG**

**Proper shipping name** UN3142, Disinfectants, liquid, toxic, n.o.s. (4-(2-nitrobutyl)morpholine), 6.1, III

**IATA**

**Proper shipping name** UN3142, Disinfectants, liquid, toxic, n.o.s. (4-(2-nitrobutyl)morpholine), 6.1, III

**15. Regulatory information****15.1 International Inventories**

TSCA	-
DSL	-
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	-
AICS	Complies
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL - Canadian Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

## 15.2 U.S. Federal Regulations

### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

## 15.3 Pesticide Information

### **U.S. EPA Pesticide Information**

**EPA Pesticide Registration Number** 469-659-60061

#### **EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

#### **EPA Pesticide Label**

**DANGER:** Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes skin sensitization. This pesticide is toxic to fish and aquatic organisms.

## 15.4 U.S. State Regulations

No information available

### **California Proposition 65**

This product does not contain any Proposition 65 chemicals

## 16. Other information

<b><u>NFPA</u></b>	<b>Health Hazard</b> 3	<b>Flammability</b> 2	<b>Instability</b> 2	<b>Physical and chemical hazards</b> -
<b><u>HMIS</u></b>	<b>Health Hazard</b> 3	<b>Flammability</b> 2	<b>Physical Hazard</b> 2	<b>Personal protection</b> X

### **Legend:**

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*Ceiling (C)*

*DOT (Department of Transportation)*

*EPA (Environmental Protection Agency)*

*IARC (International Agency for Research on Cancer)*

*International Air Transport Association (IATA)*

*International Maritime Dangerous Goods (IMDG)*

*NIOSH (National Institute for Occupational Safety and Health)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

*PEL (Permissible Exposure Limit)*

*Reportable Quantity (RQ)*

*Skin designation (S\*)*

*STEL (Short Term Exposure Limit)*

*TLV® (Threshold Limit Value)*

*TWA (time-weighted average)*

**Revision Date**

25-Apr-2016

**Revision Note**

---

No information available

**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**