

# 2K7 BUGSTICK

A solid form microbiocide for use in controlling the growth of sulfate reducing and slime forming bacteria in oil and gas processing, metal working fluids and industrial recirculating water. Not for controlling algae in the state of California.

Active ingredient:

2-bromo-2-nitropropane-1,3-diol	84.5%
Other Ingredients	15.5%
Total	100.0%

**KEEP OUT OF REACH OF CHILDREN**

## DANGER

FIRST AID	
If in eyes	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
If swallowed	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
If on skin or clothing	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
If inhaled	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-832-4357 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Probable mucosal damage may counterindicate the use of gastric lavage.	

**SEE SIDE PANEL FOR ADDITIONAL**

### PRECAUTIONARY STATEMENTS

EPA REG. NUMBER 67420-1  
EPA EST. NUMBER 67420-CN-01  
NET CONTENTS  
13 LB (5.9 KG) - 50 STICKS

OSP MICROCHECK INC  
#1, 1715 - 27 AVENUE NE, CALGARY, AB T2E 7E1

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER** Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed or inhaled. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Do not breathe dust. For handling activities, use dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P, or HE pre-filter. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: Coveralls over long sleeved shirt and long pants, socks and chemical-resistant footwear. Goggles or face shield, and chemical-resistant gloves (such as rubber or made out of waterproof material). Do not apply this product in a way that will contact workers or other persons. Wash thoroughly with soap and water after handling. Discard clothing or other absorbent materials that may have been heavily contaminated with the product's concentrate. Remove lightly contaminated clothing and wash separately from other laundry using detergent and hot water before re-use.

### USER SAFETY REQUIREMENTS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste.

### PHYSICAL AND CHEMICAL HAZARDS

This product is corrosive to mild steel.

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Keep away from heat. **PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. **CONTAINER DISPOSAL:** Inner package is water soluble. Offer empty outer package for recycling, if available, or dispose of in a sanitary landfill, or by incineration, if allowed by State and local authorities. If burned, stay out of smoke.

## DIRECTIONS FOR USE

**IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.**

### GENERAL INSTRUCTIONS

2K7 BUGSTICK is a solid form microbiocide for use in controlling the growth of sulfate reducing and slime forming bacteria in oil and gas processing, metal working fluids, industrial recirculating water, paint, latex and antifoam systems.

2K7 BUGSTICK is typically recommended at 100 ppm active ingredient which is equivalent to 1 stick per 1000 liters or 264 gallons. For each application area the dose can vary from 15 to 1000 ppm active ingredient. Refer to specific directions for use.

If a heating stage is involved during the manufacturing process add 2K7 BUGSTICK when temperature has cooled below 40°C.

### OIL AND GAS APPLICATIONS

Use a weekly shock dose of 1 stick per 264 gallons based on the water content of the system until control is achieved. Thereafter, use a maintenance dose, once or twice weekly of 1 stick per 1056 gallons.

In Gas Wells: apply through the wellhead valving system so product drops down tubing.

In Oil Wells: drop product down tubing when sucker rods are pulled.

In Storage Tanks: drop through thief hatch.

Re-treat with a weekly shock dose if re-contamination is observed. Do not apply directly with oxygen scavengers, but treat alternatively.

This product may be used in terrestrial and off-shore oil drilling muds and packer fluids.

### METAL WORKING FLUIDS

2K7 BUGSTICK is recommended for use in soluble oils, semi-synthetic and synthetic fluids. It should be added directly to the sump (with agitation) and the system should be circulated for about one hour before shutdown.

Use 3 to 10 sticks per 264 gallons of the fluid by applying directly into the sump. A subsequent, weekly dose of 1 stick per 132 to 264 gallons is recommended to maintain control.

## INDUSTRIAL RECIRCULATING WATER

2K7 BUGSTICK may be dosed directly into the sump or basin or it may be added to the cooling water return at a suitable point. The dosing point should be located where there is adequate flow or turbulence to ensure quick dissolution and rapid dispersal around the system (e.g. the pump outlet from the tower sump).

A shock dose of 1 stick per 264 gallons should be added to the cooling water once or twice weekly. Thereafter, use a weekly maintenance dose of 1 stick per 528 to 1584 gallons.

## PAINTS, LATEX AND ANTIFOAM EMULSION SYSTEMS

To provide in-can preservation and inhibit the growth of bacteria in wash waters and during storage of emulsion concentrates and latex emulsion based paints. Also for the preservation of silicone and other antifoam emulsion systems.

2K7 BUGSTICKS may be added to the aqueous phase at any convenient point during the manufacturing process, preferably where there is product agitation. They may be added as a final step prior to packing of the product into bulk or sales packs, but allowing sufficient time for dissolution and dispersion

Dose 2K7 BUGSTICKS at 4 to 19 sticks/1056 gallons of the final formulation volume.

## INDUSTRIAL AND/OR COMMERCIAL AIR WASHERS, AIR CONDITIONING AND HUMIDIFYING SYSTEMS

For the control of bacterial and algae growth and to remove slime deposits. Dosing should be carried out into the water sump on a routine basis once per week or month. Heavily fouled systems may require twice weekly treatment.

Initial dose with 1 stick per 528 gallons. Subsequent dosing can be reduced by half.

Intermittent treatment during regular maintenance and cleaning using 1 stick per 264 gallons is also recommended with a contact time of at least one hour.

For smaller systems (264 gallons) 1 stick may be broken in half and then added.

# 2K7 BUGSTICK

## Safety Data Sheet (GHS)

### I. PRODUCT AND COMPANY IDENTIFICATION

Updated July 17th, 2014

<b>GHS Product Identifier</b>	2-BROMO-2-NITROPROPANE-1,3-DIOL
<b>Synonyms</b>	Bronopol, BNPD
<b>Recommended Use</b>	Biocide - Product registered in both the US (EPA) and Canada (PMRA) <b>Please follow all directions on label</b>
<b>Company Name</b>	OSP Microcheck Inc. #1, 1715 – 27 <sup>th</sup> Avenue N.E. Calgary, Alberta Canada T2E 7E1
<b>Phone Number</b>	(403) 291-1658
<b>Emergency 24 Hr. Availability</b>	<b>U.S.A. Chem Tel</b> - (800) 255-3924 <b>Canada CANUTEC</b> (613) 996-6666 or *666 on cellular phone

### II. HAZARD IDENTIFICATION

This product is a mixture

This product is packaged in a water soluble pak to reduce possible contact with the biocide. Hazards are identified for all products in this mixture that are above the minimum limits.



Corrosive

(Scale 1 to 4 - 1 most serious, 4 less serious)



Environmental Toxicity



Warning

Acute Tox. 4	Harmful in contact with skin
Acute Tox. 4	Harmful if swallowed
STOT SE 3	May cause Respiratory irritation (Specific Target Organ Toxicity - Single Exposure)
Skin Irritation 2	Causes skin irritation
Eye Damage 1	Risk of serious eye damage
Aquatic Acute 1	Very toxic to aquatic life

### III. COMPOSITION

CAS Number	Name	Content (% W/W)
52-51-7	Bronopol	60-95%
68081-81-2	Benzene sulfonic Acid, mono-C6-alkyl derives., sodium salt	5-10%
9036-19-5	Poly(oxy-1,2ethanediyl), a-[(1,1,3,3-tetramethylbutyl) phenyl]-w-hydroxy-	.5-3%

### IV. FIRST AID MEASURES

This product is a solid in a water soluble package; proper usage will minimize the contact hazards. If there is exposure to solid stick or treated fluid then proceed in the following manner.

**Eye Contact** Immediately irrigate with water for at least 10 minutes and obtain medical attention.

**Skin Contact** Remove contaminated clothing. Rinse, wash affected skin with water or soap and water. If irritation develops, obtain medical attention.

**Ingestion** If swallowed. Wash out mouth thoroughly with water; can sip water to drink. Do not induce vomiting. Obtain medical attention.

**Inhalation** Solid stick, no dust under normal conditions.

## V. FIRE FIGHTING MEASURES

**Flash Point:** Not applicable  
**Flammability:** Not highly flammable  
**Auto-ignition:** Not self-igniting

**Extinguishing:** Noncombustible  
**Explosion Hazard:** any

**Fire Fighting Procedures:** Use self-contained breathing apparatus. Use dry powder or alcohol resistant foam, water spray or carbon dioxide for extinguishing media. Harmful vapors may be released during fire-fighting operations, wear self-contained breathing apparatus.

**Note for Bronopol:** Stable at normal temperatures, but when heated above 140°C the solid decomposes exothermically liberating toxic hydrogen bromide and oxides of nitrogen and swelling up to give a sticky, tarry mass which burns readily in a fire. The decomposition temperature is significantly lowered in the presence of inorganic or organic bases to an extent proportional to the amount of base present.

**Note for Benzene sulfonic acid:** Under fire conditions may release oxides of carbon, oxides of sulfur, oxides of phosphorus, halogenated compounds or metal oxides.

## VI. ACCIDENTAL RELEASE MEASURES

Product is a solid stick can be picked up with hands while wearing gloves or if in broken pieces shovel or sweep up waste into approved container. Wear prescribed protective clothing and equipment. If spill is for treated fluids then isolate area. Protect the environment, this is a biocide prevent the fluids from entering soil, ditches and natural waterways. Follow label instructions on the containers and follow local, state, provincial and/or federal regulations for disposal.

## VII. HANDLING AND STORAGE

**Handling:** Use proper PPE (see section VIII) Work in well-ventilated area. Avoid open packaging

**Storage:** Keep container tightly closed when not in use. Store in cool location and away from all foods and animal feeds. Avoid all sources of ignition: heat, sparks and open flame

**Follow all instructions on the label; this is a registered biocide both in Canada and the US.**  
**USA – It is a violation of federal law to use this product in a manner inconsistent with its labelling.**  
**CANADA – This pest control product is to be used only in accordance with the directions on the label. It is an offence under Pest Control Products Act to use this product in a way that is inconsistent with the direction on the label. The user assumes the risk to persons or property that arises from any such use of this product.**

## VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Respiratory Protection:</b>	None required for normal use conditions
<b>Protective Gloves:</b>	Chemical resistant gloves
<b>Eye Protection:</b>	Safety eye wear (glasses or goggles)
<b>Other Protective Equipment:</b>	Chemicals resistant clothing to prevent prolonged skin contact

## IX. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	White or yellow, solid stick	<b>Vapor Pressure:</b>	not determined
<b>Odor:</b>	Odorless	<b>Vapor Density:</b>	not determined
<b>Odor threshold:</b>	No data available	<b>Auto-ignition Temp:</b>	any data available
<b>pH:</b>	2-7 in 1% sol. @ 20°C	<b>Viscosity:</b>	not applicable
<b>Melting Point:</b>	128-132°C	<b>Solubility in Water:</b>	28% (m/v) @23°C fresh water
<b>Boiling Point:</b>	not applicable	<b>Decomposition Temp:</b>	140°C

## IX. PHYSICAL AND CHEMICAL PROPERTIES - Continued

<b>Flash Point:</b>	not applicable	<b>Evaporation Rate:</b>	not applicable
<b>Specific Gravity:</b>	not determined	<b>Flammability:</b>	no
<b>Upper/Lower explosive limits:</b>	no data available		
<b>Partition Coefficient n-octanol/water (log Kow):</b>	not determined		

## X. STABILITY AND REACTIVITY

**Reactivity:** Will react with oxidizing materials

**Conditions to Avoid:** Avoid all sources of ignition, heat sparks and open flame.

**Stability:** Stable under normal conditions and recommended use.

**Hazardous Reactions:** Avoid maximum temperature of 90°C to prevent self-heating and rapid decomposition. May violently decompose at 140°C

**Incompatible Materials:** Avoid contact with strong acids, bases, amines and oxidizing material. Corrosive to some metals

**Hazardous decomposition products:** nitrogen oxides, bromine compounds, oxides of carbon, oxides of sulfur, oxides of phosphorus, halogenated compounds and metal oxides

## XI. TOXICOLOGICAL INFORMATION

Data for active ingredient - BNPD

**Acute Toxicity****Oral**

**Type of Value:** LD50

**Species:** rat (male/female)

**Value:** 305 mg/kg (OECD 401)

Data refer to diluted aqueous solution of substance

**Inhalation**

**Type of Value:** LC50

**Species:** rat (male/female)

**Value:**  $\geq 0.588$  mg/L

**Exposure Time:** 4 hours  
An aerosol was tested

**Dermal**

**Type of Value:** LD50

**Species:** rat (male/female)

**Value:** >2,000 mg/kg (OECD 402)

Aqueous solution was tested  
The European Union (EU) has classified this substance as 'harmful'

**Irritation / Corrosion****Skin**

**Species:** rabbit

**Result:** Severely irritating

**Method:** OECD 404

**Eye**

**Species:** rabbit

**Result:** Irritant

**Method:** Draize test  
The EU has classified this substance with 'Risk of Serious damage to eyes'

**Sensitization****Guinea Pig Maximization Test**

**Species:** guinea pig

**Result:** Non-sensitizing

**Method:** Similar to OECD 406

**Experience in humans:**

If this substance comes into contact with the skin of hypersensitive persons, sensitization might occur.

The whole of the information assessable provides no indication of a carcinogenic, reproductive or teratogenic effect.

## XII. ECOLOGICAL INFORMATION

Data for active ingredient - BNPD

**Fish**

**Acute:** *Oncorhynchus mykiss* / LC50 (96 hours): 41.2 mg/l

**Chronic:** *Oncorhynchus mykiss* / LC50 (49 days): 39.1 mg/l nominal concentration (OECD 210 Flow through)

**Aquatic Invertebrates**

**Acute:** EC50 (48 hours): 1.4 mg/l

**Chronic:** *Daphnia magna* / NOEC (21 days): .27 mg/l (OECD 211 Flow through).

The statement of the toxic effect relates to the analytically determined concentration.

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 XII. ECOLOGICAL INFORMATION- Continued
 

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**Aquatic Plants**

**Toxicity:** EC50 (72 hours): 0.4 – 2.8 mg/l

**Microorganisms**

**Toxicity:** Activated sludge/ EC20 (150 minutes): 2 mg/l nominal concentration (OECD 209 Aquatic)

**Non-Mammals**

**Other terrestrial non-mammals:** Bobwhite quail / LC50 (5 days): 4,488 ppm

**Soil living organisms**

**Toxicity:** *Eisenia foetida* / LC50 (14 days): >500 mg/kg (OECD 207 artificial soil) The details of the toxic effect relate to the nominal concentration.

**Toxicity:** Other soil dwelling microorganisms EC (28 days): 25 mg/kg (OECD 216) The details of the toxic effect relate to the nominal concentration.

**Degradability / Persistence Biological/Abiological Degradation**

**Test method:** OECD 302B; ISO 9888; 88/302/EEC, part C

**Method of analysis:** DOC reduction

**Degree of elimination:** 50%

**Evaluation:** Moderately/partially eliminated from water. The product can be degraded abiotically, e.g. chemical or photolytic processes

**Environmental mobility: Transport between environmental compartments:**

Adsorption/water – soil KOC: 5

**Other Adverse effects:** Do not allow substance to enter soil, waterways or waste water channels.

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 XIII. DISPOSAL CONSIDERATIONS
 

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**Waste disposal of substance:** Must be disposed of or incinerated in accordance with local regulations.

**Container disposal:** The packaging must not be re-used. Follow guidelines on label.

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 XIV. TRANSPORT INFORMATION – Land, Sea or Air
 

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**DOT (USA) / TDG (Canada):**

<b>Shipping Name:</b>	2-Bromo-2-nitropropane-1,3-diol
<b>Hazard Class:</b>	4.1, EHSM "Flammable Solid"
<b>ID Number</b>	UN 3241
<b>Packing Group</b>	III
<b>Marine Pollutant</b>	Yes



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**XV. REGULATORY INFORMATION**


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**TSCA, US** released/exempt

**OSHA Hazard category:** Acute target organ effects reported, skin and/or eye irritant, Toxic – oral

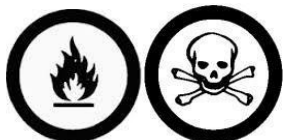
**SARA Hazard categories (EPCRA 311/312):** Acute, Chronic

**Canadian DSL Inventory**

- All components are listed

**WHMIS:** This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Classification: B4 Flammable Solid  
D1B Materials Causing Immediate and Serious Toxic Effects – Toxic material




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**XVI. OTHER INFORMATION**


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<b>NFPA RATING:</b>	Health	3	<b>Key:</b> 4 Severe, 3 Serious 2 Moderate, 1 Slight, 0 Minimal
	Flammability	1	
	Physical Hazard	0	

This product's health and safety information is provided to assist our customers in assessing compliance with Health, Safety and Environmental regulations. The information contained herein is based on data available to us, and is believed to be accurate, although no guarantee or warranty is provided or implied by the company in this respect. Since the use of this product is within the exclusive control of the user, it is the user's responsibility to determine the conditions of safe use. Such conditions must comply with all governmental regulations.

GHS compliant Version 2 completed Feb 18, 2014

For more information contact:

**Canada**

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**U.S.A.**

Telomer  
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