



# MATERIAL SAFETY DATA SHEET - MSDS

BCB Fluid for Bubble Columns Date revised 30/01/2011 page 1/4

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## 1. Substance/Company Identification

A solution of 2-BROMO-2NITRO-1,3 DIOL – UN 3421 (Synonyms – Bronopol, BNPD) in a 500ml dispenser bottle for the prevention of bacteriological growth in bubble columns.

**Lynd Products Limited, Lyndhurst, Kingwood Lane, Markington, Harrogate HG3 3NT  
Contact telephone 01765 618070 24Hr Emergency 07736 516861**

**IMPORTANT – This information relates to the concentrated solution in the bottle only**

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## 2. Composition

2-Bromo-2Nitro-1,3 Diol	9%
Water	90%
Citric Acid	1%

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## 3. Hazard Identification

**HARMFULL** IF SWALLOWED

**IRRITANT** TO SKIN, EYES.

AVOID CONTACT WITH SKIN.EYES AND CLOTHING

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## 4. First-aid Measures

**Eyes** – Rinse in clean water until discomfort subsides, seek medical attention.

**If Swallowed** – Rinse mouth with clean water, DO NOT induce vomiting, seek medical attention.

**Clothes Contamination** – Remove contaminated clothing immediately.

**Skin Contamination** – Wash areas effected with soap and clean water

**Spillage** - Mop up with clean water, sawdust may be used to soak up small amounts.

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## 5. Fire-fighting measures

Flash point: N/A Water Based Solution – No data available

Solution non-flamable however in situation of total evaporation active ingredient can release toxic fumes. The degree of risk is governed by fire conditions.

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## 6. Accidental Release Measures

Personal precautions – Use gloves and protective clothing

Environmental precautions – Do not discharge into drains/surface waters/groundwater.

Cleanup – mop up with large amounts of clean water to dilute before disposal down drain, sawdust.sand or cat litter may be used to soak up solution

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## 7. Handling and Storage

Handling – No special measures necessary providing product is used correctly

Storage -Store in a safe location away from children or adults that may be of risk, never leave in the environment near the Bubble Column and always ensure safety caps are fully tight after use. When added to the Bubble Column at the correct rate of 20ml per metre of column the active dose is 80-120ppm and presents no significant hazard to users.

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Hand Protection – Rubber or similar non absorbent gloves should be used if hand contamination is deemed unavoidable.

Eye Protection – Safety glasses should be worn when adding concentrate to bubble column.

General Safety and Hygiene Measures – Handle in accordance with good industrial health and safety practice. Keep away from food and drink. Avoid contact with skin and eyes.

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### **9. Physical and Chemical Properties**

Form – Liquid

Odour – None

Colour – Colourless

pH value – 7

Freezing point – approx. 0<sup>0</sup>C

Boiling point – approx 100<sup>0</sup>C

Density – 1.06g/cm<sup>3</sup>

Miscibility with water – completely

Solubility – Soluble

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### **10. Stability and Reactivity**

Conditions to avoid – Temperatures above 90 degrees Celsius

Substances to avoid – Oxidising agents. Sodium Hydroxide. Aluminium. Iron. Steel.

Hazardous Reactions – The product is chemically stable.

Decomposition Products – Hydrogen bromide. Nitrogen oxides, Formaldehyde, Bromine.

Thermal Decomposition – Stable at ambient temperatures.

Above 140 degrees Celsius – May decompose violently, risk of Nitrogen oxide, Hydrogen bromide.

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### **11. Toxicological Information**

Oral – LD50/rat 254mg/kg

Dermal – LD50/rat 1,600mg/kg

Carcinogenicity – In the majority of short term assays the substance caused no effects.

Reproductive Toxicity – No indications of fertility impairing effects.

Other Information – The data on toxicology refers to the active ingredient w/w 9%.

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### **12. Ecological Information – Environmental fate and transport**

#### **Biodegradation**

Test method: OECD 302B; ISO 9888; 88/302, partC

Method of analysis: DOC reduction

Degree of elimination: 50%(45d)

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

## Ecological Information Continued

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Chemical oxygen demand (COD)

Approx. 600mg/g

Adsorbable organically-bound halogen (AOX)

The product contains according to the formulation, organically bound halogen. It can increase the AOX-value in the water purification plants overflow or if it reaches waters.

### Environmental toxicology

Acute and prolonged toxicity to fish  
Rainbow trout/LC50 (96h): 41.2 mg/l

Acute toxicity to aquatic invertebrates  
EC50 (48h): 1.4mg/l

Toxicity to aquatic plants  
EC50 (72h): 0.4-2.8 mg/l

Toxicity to microorganisms  
Greater than 50mg/l

Inhibition of degradation in activated sludge is not to be anticipated during correct introduction of low concentrations.

Other information – The ecological data given are those of the active ingredient

## 13. Disposal Considerations

When changing water in bubble column - Water from column may be emptied down drain.

Container - Ensure container is empty before disposing in domestic refuse. Do not use container for any other storage or use.

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## 14. Transport Information

Land transport

Shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 2-BROMO-2-NITROPROPANE-1,3-DIOL) CORROSIVE ON METALS

Hazard class: 4.1  
ID number: UN3421  
Packing: III

Sea transport

Shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 2-BROMO-2-NITROPROPANE-1,3-DIOL) CORROSIVE ON METALS

Hazard class: 4.1  
ID number: UN3421  
Packing: III  
Marine pollutant NO

Air transport

Shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 2-BROMO-2-NITROPROPANE-1,3-DIOL) CORROSIVE ON METALS

Hazard class: 4.1  
ID number: UN3421  
Packing: III

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## 15. Regulatory information

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Product name: BCB Fluid (Water Treatment for Bubble Columns)

Symbol(s): Xn Harmful

R-phrases: R21/22 Harmful in contact with skin and if swallowed.  
R41 Risk of serious damage to eyes.  
R50 Very toxic to aquatic organisms.

S-phrases: S37/39 Wear suitable gloves and eye/face protection.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Hazard determinant component(s) for labelling: 2-BROMO-2-NITROPROPANE-1,3-DIOL/  
BRONOPOL

**NOTE:** THIS DATA SHEET DOES NOT CONSTITUTE A USER'S ASSESSMENT OF WORKPLACE RISK AS REQUIRED BY HSW ACT, COSHH, MANAGEMENT OF HEALTH AND SAFETY AT WORK REGULATIONS, OR OTHER HEALTH AND SAFETY LEGISLATION

## 16. Other Information

Information on intended use: This product is for use only as a bubble column biocide for control of infection risks associated with these items and at the recommended dose. Any other applications should be discussed with the manufacturer.

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The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our products must take responsibility for observing existing laws and regulations applicable.

Revisions  
30/01/2011 – New ownership, Lynd Products.