



MATERIAL SAFETY DATA SHEET (MSDS 123/94/EEC)

AQUASAN: Bronopol Based Water Bath Sanitising Tablets

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

1.1 Identification of the Preparation:

Aquasan Tablets - 1.8g white tablets containing 1g Bronopol. For preventing slime growth in water systems.

1.2 Company Identification:

Guest Medical Limited, Unit A6, Larkfield Trading Estate, New Hythe Lane, Larkfield, Aylesford, Kent ME20 6SW
Tel: 01622 791895 Fax: 01622 716309

1.3 Emergency Telephone Number:

International Access Code + 44 1622 791895

2. COMPOSITION / INFORMATION ON INGREDIENTS

2.1 **Chemical Name:** 2-Bromo-2-nitropropane-1,3-diol tablets

2.2 **Synonym:** Bronopol tablets

2.3 **Formula:** $C_3H_6NO_4Br$ (bronopol)

2.4 **CAS Number:** 52-51-7 (bronopol)

2.5 **EINECS Number:** 2001430 (bronopol)

3. HAZARDS IDENTIFICATION

Hazard Class - Harmful (Xn) & Dangerous for the Environment (N)

3.1 **Health Effects:** Harmful if swallowed and in contact with skin. Tablet dust and solutions are irritating to the skin, eyes and respiratory system. Risk of serious damage to eyes. Cases of skin sensitisation have been reported following exposure to bronopol.

3.2 **Fire & Explosion:** Stable at normal temperature, but when heated above 140°C bronopol 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.

3.3 **Environment:** Dangerous for the environment. Bronopol is very toxic to algae, toxic to daphnia and harmful to fish.

4. FIRST AID MEASURES

Eye Contact: Immediately irrigate with water for at least 10 minutes. Obtain medical attention.

Skin Contact: Immediately drench with water. Remove contaminated clothing. Swab affected skin with water or soap and water. If irritation develops, obtain medical attention.

Ingestion: Wash out mouth thoroughly, then drink plenty of water. Obtain medical attention.

Inhalation: Remove to fresh air. If discomfort persists obtain medical attention.

5. FIRE FIGHTING

The product will burn in air, producing toxic gases. Self-contained breathing apparatus should be provided for firemen fighting fires in confined spaces.

Do not use Carbon dioxide extinguishers.

Avoid whirling up the material/product because of the danger of dust explosion.

5.1 Suitable Extinguishing Media: Water spray, foam, dry chemical powders are suitable extinguishing agents.

5.2 Specific hazards: Harmful vapours, Evolution of fumes/fog.

5.3 Special protective equipment: Wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid dust formation. Use personal protective clothing

Environmental Precautions: Prevent entry into watercourses.

Methods for Cleaning Up: Carefully pick up the tablets. Transfer the spillage to a polythene lined container for subsequent correct disposal. Clean the spillage site with detergent and water.

7. HANDLING AND STORAGE

7.1 Handling:

Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation of dust. Where there is a risk of personal contact protective clothing should be worn. Take precautionary measures against static discharges.

7.2 Storage:

Store at ambient temperature in sealed containers as supplied, in dry conditions, keep away from:

- i oxidising agents and/or bases;
- ii heat and sources of ignition;
- iii food, drink and animal feedstuff.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.2 Respiratory Protection: Approved particulate respirator (EN143 Type P2), where tablet dust is prevalent.

8.3 Hand Protection: Chemical resistant protective gloves (EN 374) when handling in bulk.

8.4 Eye Protection: Safety goggles (cage goggles) (EN166) when handling in bulk.

8.5 Skin Protection: Overall or disposable coverall (according to DIN-EN 465)when handling in bulk.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Flat white tablets
Odour:	Faint, characteristic
pH:	5.0 to 7.0 (1% solution @ 20°C)
Molecular Weight:	200
Melting Point (°C):	128 to 132°C
Vapour Pressure:	1.68 x 10 ⁻³ Pa @ 20°C
Relative Density:	1.1g/cm ³
Solubility in Water:	28% (@ 22-25°C)
Solubility in Other Solvents:	58% in ethanol, 52% in propylene glycol (@ 22-25°C)
Log P (n-octanol/water)	0.18 (@ 20°C)

10. STABILITY & REACTIVITY

Thermal decomposition:	90 ⁰ C	Hydrogen bromide, nitrogen oxides (NO) _x
Thermal decomposition:	140 ⁰ C	May decompose violently.
Substances to avoid:	Oxidizing agents, sodium hydroxide, bases, aluminium, metals.	
Hazardous reactions:	Dust explosion hazard	
Hazardous decomposition products:	None if stored and handled as prescribed/incicated.	

11. TOXICOLOGICAL INFORMATION

Toxicological Data:	LD ₅₀ oral rat male/female:	307 mg/kg / 342 mg/kg
	LD ₅₀ dermal rat :	1600 mg/kg
	Primary skin irritation/rabbit:	Irritant (OECD Guideline 404)
	Primary irritations of the mucous membrane/ rabbit:	Risk of serious damage to eyes (OECD guideline 405)

No indications of a developmental toxic/teratogenic effect were seen in animal studies.

Experience in humans: If this substance comes into close contact with the skin of hypersensitive persons, sensitization might occur.

Additional information: The whole of the information available provides no indication of a carcinogenic effect.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish:	Oncorhynchus mykiss/LC50 (96h): 41,2 mg/L
Aquatic invertebrates:	EC50(48h): 1,4 mg/L
Aquatic plants:	EC50(72h): 0,4 – 2,8 mg/L
Micro-organisms/ Effect on activated sludge:	>50 mg/L Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Persistence and degradability

Test method:	OECD 302B; ISO9888; 88/302/EEC, part C
Method of Analysis:	DOC reduction
Degree of elimination:	50%
Evaluation:	Moderately/partially eliminated from water.
Assessment:	Product can be degraded abiotically, e.g. chemical or photolytic process.
Chemical Oxygen Demand:	approx.600mg/g

13. DISPOSAL INFORMATION

Must be dumped or incinerated in accordance with local regulations.
Contaminated empty packaging materials should be treated in a similar manner.

14. TRANSPORT INFORMATION

Class	4.1
UN Number:	3241
UN Hazard Class:	Not applicable
UN Packing Group:	III
Marine pollutant	No
Exact technical name	2-Bromo-2-Nitropropane-1,3-Diol

15. REGULATORY INFORMATION

EG-Number: 200- 143-0

Classification of Risk: Harmful (Xn)
Dangerous for the environment (N)

Risk Phrases: R21/22 Harmful in contact with skin and if swallowed
R37/38 Irritating to respiratory system and skin
R41 Risk of serious damage to eyes
R50 Very toxic to aquatic organisms

Safety Phrases: S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 Wear suitable gloves and eye/face protection
S61 Avoid release into the environment.
Refer to special instructions/safety data sheets

16. OTHER INFORMATION

Information updated 31.03.2004



HARMFUL

The information contained herein is based on data considered to be accurate as of the date of preparation of the Material Safety Data Sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information. The user assumes all liability for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.