

s&m Bronopol

Preservative for household products

- Suitable for preservation of water based household products
- Bactericidal effect
- Excellent efficacy against pseudomonas
- Effective even in very low use-concentrations
- Effective in pH ranges up to 8

Active substance			
INCI name	EINECS-Name:	CAS-No.	EC-No.
2-Bromo-2-nitropropane-1,3-diol	Bronopol	52-51-7	200-143-0

Physico-chemical properties	
Colour	white - off white
Form	crystalline
Odour	odourless
Water solubility (23 °C)	ca. 280 g/l
Foaming characteristics (DIN 53902)	Non foaming (0.1 % in water)
VOC-Content to Directive 2004/42/EC	none
pH (10 g/l)	5 - 7

Fields of application		
The optimum use level should be evaluated by means of a repeated challenge test (e.g. at schülke Technical and Microbiological department). Limits for labelling can be seen from the separate schülke labelling sheet.		
Use biocides safely. Always read the label and product information before use.		
	Recommended dosage	
Washing-up liquids	0.2 - 1.0 g/kg	(0.02 - 0.10 %)
Detergent	0.2 - 1.0 g/kg	(0.02 - 0.10 %)
Fabric softener	0.2 - 1.0 g/kg	(0.02 - 0.10 %)
Window cleaners	0.2 - 1.0 g/kg	(0.02 - 0.10 %)
Wax emulsions	0.2 - 1.0 g/kg	(0.02 - 0.10 %)
Other uses	Kindly contact us.	

Indications for use	
General Information	s&m Bronopol is fully effective both in anionic as well as cationic and non-ionic systems. High pH values (> pH 8.0) should be avoided. Acidic pH values have no negative influence on the effectiveness.
Solubility	Fully soluble in water and in most polar organic solvents.
Compatibility with sulphite ions	s&m Bronopol is inactivated by sulphite ions. Excessive sulphite > 20 ppm must be avoided.
Recommended use pH range	3 - 8
Maximum use temperature	max. 40 °C
Additional advice	If possible, to be incorporated at an early stage during production. pH, temperature and redox conditions are to be taken into consideration. Avoid alkaline pre-solutions. Avoid secondary amines. Cleaning of equipment is possible by rinsing with water.

Microbiological efficacy					
The efficacy of the product has been tested against the following microorganisms according to DGHM (German Society for Hygiene and Microbiology). Determination of the minimum inhibitory concentration in the serial dilution test produced the following values (MIC in % of the product):					
Bacteria (gram-negative)	MIC	Bacteria (gram-positive)	MIC	Yeasts	MIC
<i>Escherichia coli</i>	0.0025	<i>Staphylococcus aureus</i>	0.0025	<i>Candida albicans</i>	0.16
<i>Legionella pneumophila</i>	0.0050	<i>Staphylococcus epidermidis</i>	0.0025	<i>Saccharomyces cerevisiae</i>	0.32
<i>Proteus vulgaris</i>	0.0025	Sulphate-reducing bacteria	MIC	Moulds	MIC
<i>Pseudomonas aeruginosa</i>	0.0025	<i>Desulfovibrio desulfuricans</i>	0.0012	<i>Aspergillus niger</i>	0.32
<i>Burkholderia cepacia</i>	0.0025			<i>Penicillium funiculosum</i>	0.16
<i>Pseudomonas fluorescens</i>	0.0025			<i>Trichoderma virens</i>	0.64

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Compatibility*		
	compatible	to be avoided
aqueous dilution (0.1 %)	No significant difference to water	aluminium
powder	plastics	metallic materials

*Compatibility has to be proved in each case

Labelling	
R-phrases(s)	R21/22, R37/38, R41, R50
S-phrases(s)	S26, S35, S37/39, S61
Labelling	N (Dangerous for the environment), Xn (Harmful)
	For further hazard instructions and safety advice please refer to the actual material safety data sheet.

Environmental information
At a sufficient degree of dilution, all components of s&m Bronopol are completely biodegradable. Dilutions of s&m Bronopol do not normally interfere with the operation of waste water treatment plants.

Listings and approvals of active ingredients
EINECS / ELINCS (Europe)
TSCA (USA)
ECL (Korea)
DSL / NDSL (Canada)
ENCS (Japan)
PICCS (Philippines)
IECSC (China)
AICS (Australia)
BfR XIV, XXXVI
FDA 175.105 / 176.300 / 176.170 / 176.180

Transport & Storage	
Dangerous goods	Yes
UN-Number	3241
Packaging group	III
Package sizes	25 kg
Shelf life	30 Months
Storage	Keep container tightly closed. Protect from heat and direct sunlight. Keep in a dry place.

Ecolabel			
	Basic criteria	Product type	max. use concentration
European Flower	2003/200/EC	Laundry detergents	0.10 %
European Flower	2005/342/EC	Hand dishwashing detergents	0.10 %
European Flower	2005/344/EC	all-purpose cleaners and cleaners for sanitary facilities	0.10 %

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Our recommendations regarding our products are based on in-depth scientific testing in our Research Department; they are given in good faith, but no liability can be derived from them. It is the responsibility of the final product manufacturer to assure that claims made for the final product are in conformance with all applicable local laws. In other respect our Conditions of Sale and Supply apply.

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