

BK

PRESERVATIVE FOR TECHNICAL PRODUCTS

- ❑ Bactericidal effect
- ❑ Broad, balanced spectrum of effect (incl. sulphate-reducing bacteria)
- ❑ Good immediate effect
- ❑ Good anticorrosion properties
- ❑ Contains no nitrate, nitrosing agents or organically bound chlorine (has no effect on the AOX value)

Technical data

		CAS-Nr.
Active	2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	4719-04-4
Appearance	Pale yellow liquid	
Density (20 °C)	1.150 – 1.160 g/ml	
Viscosity (DIN 53 211)	Flow time 60 – 100 sec (20 °C)	
Odour	Amine-like	
Refractive index (20 °C)	1.475 – 1.485	
Boiling point	> 100 °C	
Flashpoint (ISO 2719)	> 100 °C	

Use concentration

	Recommended dosage	
Watermiscable metalworking fluids	0.15 %	The optimum use level should be evaluated by means of a repeated challenge test (e.g. BOKO-Test by S&M – Technical and Microbiological dept). <i>Use biocides safely. Always read the label and product information before use.</i>
Technical emulsions	0.15 %	
Metalworking fluid concentrates (0.15% in the end dilutions)	2 – 4 %	

Instructions on application

Grotan® BK is suitable for the preservation of water-mixed metalworking fluids, metalworking fluid concentrates and technical emulsions. **Grotan® BK** can be used in the pH ranges from 8 to 11. **Grotan® BK** is temperature-stable and can be incorporated at high temperatures up to 80 °C. In order to avoid microbial growth and the resultant consumption of preservative from the outset, it is advisable to add the **Grotan® BK** to the fresh mix of metalworking fluid. More can be added at weekly to fortnightly intervals depending on the discharge of the metalworking fluid. **Grotan® BK** should be added at a point with good turbulence in order to ensure good distribution in the system. Before refilling the plant, system cleaning is recommended (e.g. with **Grotanol®**). In centralised plants with heavy fungal contamination, a combination of **Grotan® BK** with **Grotan® F 10** or **Grotan® F 15** is recommended.

Microbiological efficacy

The efficacy of the product has been tested against the following microorganisms according to DGHM (German Society for Hygiene and Microbiology) – MIC in % of the product.

Bacteria	MIC	Yeasts	MIC	Fungi	MIC
Alcaligenes faecalis	0.025	Candida albicans	0.100	Aspergillus niger	0.050
Escherichia coli	0.010			Fusarien	0.050
Proteus mirabilis	0.010			Penicillium funiculosum	0.050
Pseudomonas aeruginosa	0.025				
Pseudomonas stutzeri	0.025				

Compatibility

Aqueous dilution (0.15 %)	No significant difference to tap-water.
Material compatibility	When metalworking fluids without a copper corrosion inhibitor are used, copper or copper-containing alloys may show discolouration of surfaces wetted with Grotan® BK . From the available test results, it can be concluded that the addition of Grotan® BK has virtually no influence on the material compatibility of the medium to be preserved. When selecting sealants, piping systems, collection baths, etc., the use of Grotan® BK as the preservative can be disregarded, provided that it is used correctly.
Plastics	In the laboratory tests Grotan® BK proved to be well compatible with plastics; the swelling of the test pieces was less than as a result of the effect of mains water.
Sealants	The sealants tested were virtually unaffected by Grotan® BK , so that all usual sealants can be used when using Grotan® BK .
Advice for post dosaging	In the concentrate, Grotan® BK causes no corrosion on steel, stainless steels, aluminium or zinc. In the case of copper and brass there is a slight effect and discolouration on the surface of the metals.

Safety & Labelling

R- and S-Phrases	R 22, 43 S 24, 37
Labelling	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 **Grotan® BK** are completely biodegradable. Experience has shown that dilutions of **Grotan® BK** do not interfere with the operation of municipal sewage treatment plants. **Grotan® BK** contains no organic chlorine compounds, so that there is no effect on the AOX value in waste water as a result of **Grotan® BK**. **Grotan® BK** contains no organic solvents. The canisters and drums used by Schülke & Mayr are made of polyethylene (HDPE) and are labelled accordingly. The 1000 kg - containers are covered by a return scheme that in Europe ensures collection of the used containers free of charge and appropriate re-use. The labels are made of PE. S&M packaging materials contain no PVC and can be recycled. For further information please ask for our detailed environmental report.

Listings and approvals of active ingredients

EINECS / ELINCS (Europe)
TSCA (USA)
DSL (Canada)
AICS (Australia)
ECL (Korea)
Fullfills the requirements of the TRGS 611 (Germany)

Shelf life / Transport / Storage

Shelf life	36 months from date of production
Dangerous good	No
Package sizes	10 kg, 200 kg, 1000 kg
Storage	Protect from frost, heat and direct sunlight. Store at room temperature in the original container.

Schülke & Mayr subsidiaries in:

Belgium

S.A. Schülke & Mayr Belgium N.V.
B-1830 Machelen
Telephone 02-479 73 35
Telefax 02-479 99 66

Italy

Schülke & Mayr Italia S.r.l.
I-20148 Milano
Telephone 02-4021 820
Telefax 02-4021 829

Malaysia

Schülke & Mayr Asia Sdn Bhd
46000 Petaling Jaya
Telephone 03-77 83 56 98
Telefax 03-77 84 79 31

Netherlands

Schülke & Mayr Benelux B.V.
NL-2003 LM-Haarlem
Telephone 023-535 26 34
Telefax 023-536 79 70

Singapore

Schülke & Mayr Asia Pte Ltd
Singapore 917608
Telephone 62 57 23 88
Telefax 62 57 93 88

Switzerland

Schülke & Mayr AG
CH-8025 Zürich
Telephone 01-252 98 02
Telefax 01-252 98 27

United Kingdom

Schülke & Mayr UK Ltd.
GB-Sheffield S9 1AT
Telephone 01142-54 35 00
Telefax 01142-54 35 01

Other Distributors in:

Argentina · Australia · Austria · Belarus · Benin · Brazil · Bulgaria · Canada · China · Croatia · Czech Republic · Denmark · Egypt
Estonia · Finland · France · Ghana · Greece · Hong Kong · Hungary · India · Indonesia · Iran · Israel · Japan · Jordan · Korea
Kuwait · Latvia · Lebanon · Lithuania · Macedonia · Malaysia · New Zealand · Nigeria · Norway · Oman · Philippines · Poland
Portugal · Russia · Saudi Arabia · Slovakia · Slovenia · South-Africa · Spain · Sweden · Syria · Taiwan · Thailand · Turkey · Ukraine
United Arab Emirates · USA · Vietnam · Yemen · Yugoslavia



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. In other respects our Conditions of Sale and Supply apply.

Schülke & Mayr GmbH
D - 22840 Norderstedt
Tel. +49 40 521 00-0
Fax +49 40 521 00-244
www.schuelke-mayr.com
sai@schuelke-mayr.com