

# Grotan® F 10



Schülke & Mayr

TECHNICAL LEAFLET

F10

## PRESERVATIVE FOR TECHNICAL PRODUCTS

- Fungicidal effect
- Broad, balanced spectrum of effect against yeasts and moulds
- Good immediate effect
- Free from nitrate, nitrosing agents, formaldehyde/ formaldehyde donor compounds
- Has no effect on the AOX value

### Technical data

		CAS-Nr.
Actives	2-Octyl-2H-isothiazol-3-one Pyridine-2-thiol-1-oxide, Sodium salt	26530-20-1 3811-73-2
Appearance	Yellow-brown liquid	
Density (20 °C)	1.075 – 1.095 g/ml	
Viscosity (DIN 53 211)	Flow time < 15 sec (20 °C)	
Odour	Characteristic	
Refractive index (20 °C)	1.500 – 1.512	
Boiling point	appr. 120 °C	
Flashpoint (ISO 2719)	> 100 °C	

### Use concentration

	Recommended dosage	
Watermiscable metalworking fluids	0.15 – 0.30 g/kg (0.015 – 0.030 %)	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). <b>Use biocides safely. Always read the label and product information before use.</b>
Technical emulsions	0.15 – 0.30 g/kg (0.015 – 0.030 %)	
Aqueous systems	0.15 – 0.30 g/kg (0.015 – 0.030 %)	
Metalworking fluid concentrates (approx. 0.025 % in the end dilutions)	2 – 5 g/kg (0.2 – 0.5 %)	

### Instructions on application

**Grotan® F 10** is suitable for the preservation of water-mixed metalworking fluid concentrates. When using in water-mixed metalworking fluids and metalworking fluid concentrates without adequate bacteriostatic effect, the additional use of an amine-free bactericide like **Grotan® TK 3** is recommended. **Grotan® F 10** can be used in pH ranges from 5 to 11. **Grotan® F 10** should be incorporated at temperatures lower than 40 °C in order to prevent possible losses of effect. In order to avoid microbial growth and the resultant consumption of preservative from the outset, it is advisable to add **Grotan® F 10** to the fresh mix of metalworking fluid. More can be added at weekly to fortnightly intervals depending on the discharge of the metalworking fluid. When adding **Grotan® F 10**, it 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®**).

### 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.

Fungi	MIC	Yeasts	MIC
Aspergillus niger	0.0062	Candida albicans	0.0016
Aureobasidium pullulans	0.0001		
Fusarium oxysporum	0.0008		
Penicillium expansum	0.0062		
Penicillium funiculosum	0.0008		
Sclerophoma pityophila	0.0002		
Trichophyton mentagrophytes	0.0004		
Rhodotorula rubra	0.0031		

## Compatibility

<b>Material compatibility</b>	When metalworking fluids without a copper corrosion inhibitor are used, copper or copper-containing alloys may show discolouration of surfaces wetted with <b>Grotan® F 10</b> . In the material compatibility tests with the concentrate of <b>Grotan® F 10</b> , steel, stainless steel, polyethylene (PE) and polyvinyl chloride, hard (PVC, hard) proved to be suitable materials when handling the undiluted product. Non-ferrous metals (such as brass, bronze, copper), zinc and aluminium should be avoided when handling <b>Grotan® F 10</b> . Non-metallic materials must be tested for their suitability; in particular, polymethyl methacrylate (PMMA) and acrylo-nitrile butadiene styrene polymer (ABS) should not be used.
<b>Sealants</b>	Sealants that proved resistant when handling undiluted <b>Grotan® F 10</b> were natural rubber, styrene butadiene rubber (NR/SBR), ethylene propylene terpolymer (EPDM), fluorocarbon elastomer (FKM) and polytetrafluoroethylene (PTFE). Nitrile rubber (NBR) exhibited very marked swelling. Chloroprene rubber (CR/SBR) led to discolouration of the solution.

## Safety & Labelling

<b>R- and S-Phrases</b>	R 21/22, 34, 43, 51/53 S 26, 29, 36/37/39, 45
<b>Labelling</b>	C (Corrosive) N (Dangerous for the environment)
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® F 10** are completely biodegradable. Experience has shown that dilutions of **Grotan® F 10** do not interfere with the operation of municipal sewage treatment plants. **Grotan® F 10** contains no organic chlorine compounds, so that there is no effect on the AOX value in waste water as a result of **Grotan® F 10**. 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

<b>Shelf life</b>	12 months from date of production
<b>Dangerous good</b>	UN 1760
<b>Package sizes</b>	10 kg, 200 kg, 1000 kg
<b>Storage</b>	Protect from frost, heat and direct sunlight. Store at room temperature in the original container.

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

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