

Technical Data



GROTAN®

Broad-Spectrum Bacteriostat and
Bactericide for Metalworking Fluids
EPA Registration No. 365-76

GROTAN Broad Spectrum Anti-microbial is extensively used worldwide for the routine treatment of metalworking fluids. Its history dates back more than 30 years and it is widely used by both formulators and end-users of metalworking fluids to prevent microbial contamination.

PRODUCT ADVANTAGES

- More than 30 years history of use
- Proven efficacy against a broad range of bacteria and fungi at recommended use levels
- For use in individual sumps as well as large central systems
- Helps protect machines, tools and work pieces from corrosion
- Extends the life of metalworking fluids
- Easy to use bacteriostat, at 0.067% (1:1500) dosage for tank-side and central system use
- Non-hazardous product as defined by DOT, non-hazardous waste as defined by EPA/RCRA

ANTIMICROBIAL PROPERTIES

GROTAN has demonstrated preservative properties in metalworking fluids against a variety of commonly found gram positive and gram negative micro-organisms, such as: *Pseudomonas spp.*, *Proteus spp.*, *Staphylococcus aureus*, *Streptococcus faecalis*, *Klebsiella pneumoniae* and *Escherichia coli*.

DIRECTIONS FOR USE

Metalworking Fluid Users:

GROTAN, when used as a bacteriostat, should be maintained at a concentration of 0.067% (1:1500) in dilute fluid. For best results, before adding fresh fluid, drain and clean the system.

COMPOSITION

Active Ingredient:.....Hexahydro-1,3,5,-tris
(2-hydroxyethyl) -s- Triazine 78.5%
Inert Ingredients: 21.5%

STABILITY

Storage Stability: 15°F to 95°F.

Normal shelf life 2 years minimum.

TYPICAL PROPERTIES

Appearance:	Clear viscous liquid
Color:	Water white to pale yellow
Odor:	Light amine; odorless in end-use dilution
Specific Gravity:	1.145-1.160 g/cc @ 25°C (9.62 lb. per gallon)
Refractive Index:	1.480 - 1.486 @ 25°C
Flash Point:	>200°F (93°C) Tag Closed-Cup
VOC	373 (g/l) EPA Method 24
% Volatiles	21% nominal, by weight
Flow Point:	-18°F (-28°C)
Freezing Point:	-18°F (-28°C)
Viscosity:	250 - 300 cps @ 25°C 1190 - 1400 SUS
pH (concentrate):	10.3 - 11.3 @ 25°C
Solubility:	Miscible with water, alcohol and acetone in all proportions

NOTE: Typical properties should not be construed as purchase specifications.

TOXICOLOGY / SAFETY DATA

Skin Irritation Study (Rabbits) (NAS-1138)

The test article produced barely perceptible erythema at 4/24 sites at 4 hours, and at 2/24 sites at 24 hours. All sites were clear at 72 hours. The primary irritation index was 0.04.

Skin Sensitization Study (Guinea Pigs)

The priming injections produced slight to moderate irritation over 9 inductions. The challenge phase did not produce any greater irritation than that produced during the induction phase. It was concluded that the test article is not a sensitizing agent under the test conditions.

Oral Toxicity Study (Rats)

The oral LD50 of the test article was determined to be 535 mg/Kg, with 95% confidence limits of 442 to 659 mg/Kg. Necropsy findings at doses above 341 mg/Kg suggest toxicity to the mucous membranes of the stomach and intestines.

Dermal Toxicity Study (Rabbits)

The dermal LD50 of the test article was determined to be greater than 2g/Kg, with 1/10 mortality when this dose was administered. Necropsy findings were unremarkable.

Mutagenicity

In a micronucleus test in rats, no increase in the incidence of micronucleated erythrocytes was observed for any group given the test article by any of the three administration routes (intra-gastric, intubation, dermal application and subcutaneous injection).

PRECAUTIONARY STATEMENTS

Hazards to humans and domestic animals.
DANGER: Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear goggles or face shield. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

If in eyes: Call physician. Keep eyelids open and flush with a gentle stream of water for 15 minutes. If swallowed: Drink promptly a large quantity of milk, egg white or gelatin mixture, or if these are not available a large quantity of water. Avoid alcohol. In case of ingestion, call a physician or poison control center.

Note to physician: Probable mucosal damage may contraindicate gastric lavage.

PACKAGING

6742...Drum, 500 lb. net (non-returnable steel)
6745.....Pail, 45 lb. net (HDPE plastic)

DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Disposal:

Waste resulting from the use of this product may be disposed of on site or at an approved disposal facility.

Container Disposal:

Triple rinse (or equivalent) and offer for recycling or reconditioning, or dispose of in a sanitary landfill, or other approved state and local procedures.

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