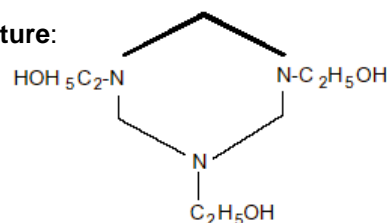


ANTIMICROBIALS – Coolant and Sump Bacterial Control.

NUGENTEC Bug-Kill Trade name: ONYXIDE® 200

Chemical Structure:



Chemical Description: Hexahydro 1,3,5-Tris (2-Hydroxyethyl)-s-Triazine

CAS Registry #: 4719-04-4

EPA Registration #: 1839-59

PCP Registration #: 25714

Applications: Bug-Kill (ONYXIDE 200) is a highly active bactericide/bacteriostat and fungistat. It can be used as a preservative in emulsifiable or soluble cutting oils and synthetic chemical coolants. In oil field applications it is useful as a preservative in drilling muds and completion fluids, hydraulic fracturing fluids, and enhanced oil recovery systems. Stepan has three registered formulations based on ONYXIDE 200 that are available for sub registration: ONYXIDE 200 Metalworking Preservative (EPA Reg. No. 1839-99), ONYXIDE 200 Oil Field. Applications Preservative (EPA Reg. No. 1839-115) and ONYXIDE 200 Preservative (Methanol) (EPA Reg.No. 1839-116).

FOR METALWORKING COOLANT SYSTEMS: Use at 8 oz per 40 gallon sump.

ONYXIDE 200 is miscible with soft and hard water (400 ppm CaCO₃) in all proportions, and with alcohol and acetone in all proportions. ONYXIDE 200 is insoluble in ether, benzene, petroleum and chloroform. ONYXIDE 200 at the recommended use level does not contribute to corrosion of metal compounds.

ONYXIDE 200 is compatible with other anionics, cationics, and nonionics at the proper pH range of 8-12. Product will lose activity below pH 5.0 and also in the presence of hydrogen peroxide at pH >10.

Typical Properties:

Composition Active biocidal ingredients:

Hexahydro 1,3,5 Tris (2-Hydroxyethyl)-s-Triazine.....	78.5%
Inert Ingredients	21.5%
	100.0%

Appearance @25°C.....	Clear amber liquid
Activity (MW 219), %	78.5
Boiling Point, °C (°F).....	100 (212)
Flash Point, PMCC, °C (°F).....	>94 (>201)
pH (as is).....	10.5
Density, g/ml (lbs/U.S. gal).....	1.15 (9.50)
RVOC, U.S. EPA, %	0

Toxicity: ONYXIDE 200 is slightly toxic orally (LD50 >0 .860g/kg) and dermally (LD50 >2g/kg) and it causes mild eye and slight skin irritation. The product is not mutagenic.

- Additional Safety Information: A Material Safety Data Sheet is available upon request.
- ONYXIDE® is a registered trademark of Stepan Company.
- Storage & normal safety precautions (i.e. gloves and safety goggles) should be employed when using ONYXIDE 200.
- Handling Contact with the eyes, nose or prolonged contact with the skin should be avoided. Wash thoroughly after handling material. It is recommended that ONYXIDE 200 be stored in sealed containers and kept in a cool dry place. Avoid overheating or freezing.
- Bulk Storage Information: ONYXIDE 200 can be stored in vessels of 316 stainless steel or fiberglass with a corrosion liner. ONYXIDE 200 should be stored below 120°F (49°C). An internal hairpin coil of 316 stainless steel with low pressure steam (under 50 psig) should be used if heating is required. Pumps, pipes and transfer lines should be 316 stainless steel.
- Standard Packaging: ONYXIDE 200 is available in 1-gallon jugs and 5-gallon containers and 55-gallon drums.
- Clearances: All components of ONYXIDE 200 are listed in the following countries; the registration numbers for the active ingredients are included in parentheses: Europe (EINECS 225-208-0), Japan (ENCS 5-998), Canada (DSL 4719-04-4) and Australia (AICS 4719-04-4).
- ONYXIDE 200 is USDA approved for use in lubricants.