

Metal Guard® 830 HTF

Metal Guard® 830 HTF is a water-soluble, hot test fluid designed to provide superior corrosion protection for internal engine surfaces. Metal Guard® 830 HTF has proven to be safe for use on all engine surfaces per ASTM D-1384 and ASTM D-4340 parameters. Metal Guard® 830 HTF is compatible with elastomer engine seals per ASTM D-471 specifications. Furthermore, Metal Guard® 830 HTF is compatible with both OAT and conventional engine coolants, such as DDC Powercool Plus and Shell HD Phosphate Free Fully Formulated Conventional Coolant.

Metal Guard® 830 HTF does not contain any inorganic salts; therefore, no powder residues are left on the surface of the metal.

Features & Benefits

- Compatible with engine coolants.
- Safe for use on soft metals such as aluminum, brass and copper.
- Safe on solder surfaces.
- Compatible with elastomers.
- Provides an excellent corrosion protection for engine storage.
- Excellent short-term rust protection on cast iron and powdered metal substrates.
- Effective at low concentrations.

Typical Applications

- Corrosion inhibitor additive for high temperature test fluids.
- Corrosion inhibitor for in-house engine storage.

Physical Data

Specific gravity	1.024
Solubility in water	infinite
Appearance and odor	clear liquid
pH concentrate	8.36



Operating Conditions

Metal Guard® 830 HTF can be applied by immersion, spray, or flow-coat. Drying can be accelerated by heating the Metal Guard® 830 HTF solution or by drying in a heated atmosphere.

Concentrations	1 to 10% (volume), Nominal (5% by vol)
Temperatures	ambient to 160° F (71°C)

Corrosion Protection Properties

Metal Guard® 830 HTF may be classified as a non-severe inhibitor, that is, it should not be used on parts or fabrications that are stored outdoors under exposure to the elements and temperature extremes. Metal Guard® 830 HTF solutions should be used on parts for in-process protection stored indoors, or boxed after the Metal Guard® 830 HTF solution has dried.

Control Procedures

Titration Procedure:

1. Pipette a 25-ml sample into a 250-ml Erlenmeyer flask.
2. Add 20 drops of 0.04% methyl red indicator.
3. Titrate with 0.1N HCl until color changes from yellow to red.

$$1.25 \times \text{mls } 0.1\text{N HCl used} = \% \text{ (volume) Metal Guard® 830 HTF}$$

Dropper Bottle Procedure:

1. Take a 5-ml sample of the bath using a graduated cylinder and put it into the 125-ml flask.
2. Add about 50 ml water and 3 drops methyl orange indicator.
3. Add 0.72 N HCl solution drop-wise until the solution turns pink.

$$\text{Drops of } 0.72 \text{ N HCl solution} \times 0.83 = \% \text{ (volume) Metal Guard® 830 HT}$$

Waste Disposal

Discharge to a disposal system. In order to be completely informed on the latest regulations for your area, please contact the local authorities.



563 South Leonard Street, Waterbury, CT 06708 • HubbardHall.com • 800-648-3412

Product Bulletin

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For more information on this process,
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