

"Metal Guard is one of the best I have seen at corrosion protection. I am VERY happy to have this product."

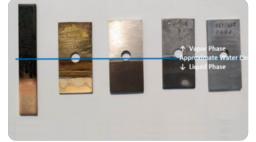
Sr. Technical Product Manager



# Finishing the Hard to Finish

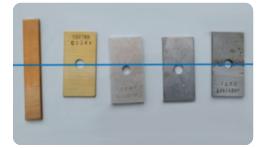
# Metal Guard<sup>®</sup> 830 HTF

Metal Guard 830 HTF was developed specifically as a corrosion inhibitor additive for use in large diesel engines during dynamometer testing. It provides superior corrosion protection for both testing and storage.



#### Incumbent Product

Substrates from left to right: Copper Brass Aluminum Solder Cast Iron



#### **MetalGuard 830 HTF**

Substrates from left to right: Copper Brass Aluminum Solder Cast Iron

### **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.

## Metal Guard® 830 HTF

#### Proof

Corrosion, especially in the vapor phase area, is a concern for engine manufacturers doing dyno testing. The Metal Guard 830 HTF was tested against a competitor at ranges from 5% to 10% concentration by volume, using the ASTM 1384 test method. Corrosion inhibitor properties of the test solution are evaluated on the basis of the weight changes incurred by the specimens. The less weight loss, the better the corrosion protection

ASTM D 1384	Specimen Corrosion Weight Loss (mg)				
SPECIMEN	#1	#2	#3	AVG.	MAX.**
Copper	1	0	1	1	10
Solder	0	0	0	0	30
Brass	1	0	0	0	10
Steel	0	1	1	1	10
Cast Iron	0	1	0	0	10
Cast Aluminum	2	2	1	2	30

\*\* Maximum corrosion weight loss as specified by ASTM D3306

For a complete copy of the test results mentioned in this document please contact  $\underline{info@hubbardhall.com}$ 

Whether your products are being shipped overseas, sitting in inventory on a shelf or waiting for the next metal finishing process, you want to protect them from rust and corrosion.

Hubbard-Hall's Metal Guard<sup>®</sup> line of precision rust preventatives is custom designed to address manufacturing's hardest problems.

#### Why Metal Guard 830 HTF?

- Superior corrosion protection on soft metal engine substrates such as copper, brass, aluminum, and solder
- Corrosion protection for ferrous engine components.
- Protection on both ferrous and nonferrous substrates at concentrations ranging from 5 to 10% by volume (per ASTM G 31 and ASTM D 1384 specifications)
- Metal Guard 830 HTF has also proven to be safe for use with most primary elastomers per ASTM D 471 evaluations

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