



Better Chemistry. **Better Business.**

**Metal Guard® 810**

**Product Code: 2508010**  
**Revised Date: 05/31/2006**

**Metal Guard® 810**

**Metal Guard® 810** is a clear, non-flammable mildly alkaline liquid which is used in metal finishing processes for protecting ferrous metals against rust during an "in process" operation. Solutions of **Metal Guard® 810** will not cause rusting when the work (steel or cast iron) remains immersed in the solution of **Metal Guard® 810**.

**Metal Guard® 810** may be added to Hubbard-Hall alkaline spray cleaners such as P-132, etc., To provide cleaning and rust prevention in one operation.

**PHYSICAL DATA**

Specific gravity ..... 1.258  
Vapor pressure ..... less than 17.5 at 20° C  
Solubility in water ..... infinite  
Appearance and odor ..... clear, light blue liquid  
pH conc ..... 11.0

**OPERATING CONDITIONS**

**Metal Guard® 810** may be used in immersion operations, power wash machines, vibratory tumbling flow-thru systems, wet tumbling or as a spray cleaner addition.

**IMMERSION METHOD**

**Metal Guard® 810** is used 0.25 to 1.0% by volume. This dip may be the final step after a sequence of wet operations such as tumbling, cleaning, etc. No visible films remain and parts have temporary indoor protection for indefinite periods. **Metal Guard® 810** may also be used as a corrosion inhibitor in iron casting inspections where the part is immersed in water and air pressure applied. Parts do not rust while they are immersed in the water, and are also protected after exposure to air.

**Metal Guard® 810** affords some protection after parts are rinsed subsequent to dipping. However, no rinsing after the dip is preferred for best rust protection.



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#### POWER WASH METHOD

The non-foaming characteristics of **Metal Guard® 810** make it an ideal product for use in power washers in the final rinse.

Concentration ..... 0.1 To 1.0% (Vol) in final rinse or spray cleaner  
Temperature ..... 100 to 160° F (37 to 71° C)

A hot final rinse will facilitate the drying of the work.

#### Vibratory tumbling flow-through systems

Being a liquid, **Metal Guard® 810** is ideal for use in vibratory tumbling flow-through systems via automatic aspirators or similar arrangements. **Metal Guard® 810** is easy to add to the make-up tank as there are no solubility or crystallization problems with the material. Simple flow-through systems can be made by using a make-up tank of **Metal Guard® 810** and a gravity feed pipe-valve hook-up.

Concentrations of **Metal Guard® 810** for aspirator set-ups would be 2 to 8 oz/gal in the sump or tank with a suction rate of 1 gal of make-up solution to 10-20 gallons of feed water.

Concentrations for gravity feed flow-through would be 0.5 to 1.0% by volume.

In some vibratory flow-through systems, **Metal Guard® 810** may be the compound used throughout the tumbling cycle. It functions as the cleaner, rust inhibitor, lubricant and burnisher. Its mild nature makes it ideal for use in vibratory finishing of zinc surfaces.

#### CONTROL

##### TITRATION PROCEDURE

1. Measure a 200 ml sample into a 500 ml Erlenmeyer flask from a graduated cylinder.
2. Add 10 to 20 drops bromcresol purple indicator and mix.
3. Titrate with .5 N hydrochloric acid until the color changes from purple to yellow.
4. Record mls of 0.5 N HCl used.

Concentration (% vol) **Metal Guard® 810** = 0.25 X mls 0.5 N HCl used



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### TEST KIT PROCEDURE

The test kit procedure for **Metal Guard® 810** is a slightly modified version of the typical alkaline test kit.

1. Measure a 25 ml sample of **Metal Guard® 810** solution, using a 25 ml graduated cylinder.
2. Add 5 drops bromcresol purple indicator and mix.
3. Add N-94 solution dropwise while swirling solution until the color changes from purple to yellow.
4. Record number of drops N-94 used.

Concentration (% vol) <b>Metal Guard® 810</b> = drops N-94 x 0.14
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### CAUTION

**Metal Guard® 810** is a mildly alkaline liquid. Avoid skin, eye and oral contact. Wear protective clothing, gloves and goggles when handling the product. Flush exposed areas immediately with clean, cold water. Contact a doctor immediately in case of injury.

### WARRANTY

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.