Metal Guard® 822

Metal Guard 822 is a water-soluble liquid concentrate specifically formulated for use in spray applications to provide temporary rust protection of steel indoors. It leaves a dry, invisible, non-oily film that will not hinder subsequent operations. It can be used as a final dip in spray, tumbling or soak operations to prevent possible oxidation of steel parts. Since it is a water solution, it does not present a fire hazard, nor does it present a toxicity problem.

Features & Benefits

Excellent short-term process rust protection	Prevents rust on high value parts between process steps
Easily soluble in water	Easily removed with a mild alkaline cleaner
Used at low concentrations	Cost effective over large applications
Low foam	Excellent for use in spray washers or as a burnish in vibratory mass finishing

Physical Data

Specific gravity	1.10
Vapor pressure	< 17.5 @ 20°C
Solubility in water	Infinite
Appearance and odor	Clear, water white liquid

Operating Conditions

Metal Guard 822 is commonly used at 1% to 3% (volume) with water and at temperatures ranging from ambient to 180°F. Higher temperatures facilitate faster drying and speed up production, while higher concentrations provide greater protection against oxidation. Solution replenishment is non-hazardous, whether added to a hot or cold bath.

Metal Guard 822 can be controlled chemically, but this is usually not necessary since the solution has such wide operating parameters that additions may be made without chemical control and/or the bath may be made up new more frequently because of its low cost.

Equipment
Tanks may be made of mild steel or stainless steel with provision for heating the bath, if required. It is not necessary to exhaust the solution.

Titration Method

Reagents and Equipment:

- 10 mL graduated cylinder or 5 mL pipet
- 250 mL Erlenmeyer flask
- 25 mL burette
- 50% Sulfuric Acid solution
- 0.1 N Potassium Permanganate solution

1. Take a 5 mL sample of the Metal Guard 822 bath and transfer it into the 250 mL Erlenmeyer flask.
2. Add about 75 mL of warm water (~120°F).
3. Add 5 mL 50% sulfuric acid.
4. Titrate immediately with 0.1 N Potassium permanganate to a pink endpoint that lasts for 30 seconds.
5. Record mL used.

Calculation

Concentration = mL Potassium Permanganate x 0.256

Caution

Metal Guard 822 is a water solution of chemicals; thus, it does not present a fire hazard, nor does it contain caustic or other chemicals that require special clothing for handling.

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For more information on this process,
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