Metal Guard® 800-D

Metal Guard 800-D is clear, non-flammable, mildly alkaline, liquid rust preventative which is used in metal finishing processes for protecting ferrous metals against rust during an "in-process" operation.

Metal Guard 800-D is a versatile product that allows it to be used in immersion operations, power wash machines and vibratory tumbling flow-through systems. Solutions will not cause rusting when the work (steel or cast iron) remains immersed.

Metal Guard 800-D does not contain inorganic salts; therefore, no powder residues are left on the surface of the metal after application.

Features & Benefits

Excellent short-term-in-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	1.05
Solubility in water	Complete
Appearance and odor	Pink solution, slight ammonia odor
pH (conc.)	11.0

Typical Applications

- In-process rust inhibitor
- Low foam spray cleaner
- Vibratory burnishing compound

Operating Conditions

Immersion Method

Metal Guard 800-D is used 0.5 to 5.0% 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 the parts have temporary indoor protection for indefinite periods. Metal Guard 800-D may also be used as a corrosion inhibitor in iron casting inspection where the part is immersed in water and air pressure applied. Parts do not rust while they are immersed in the water and are protected after exposure to air.

Metal Guard 800-D affords some protection after parts are rinsed subsequent to dipping. However, no rinsing after the dip is preferred for best rust protection.

Power Wash Method

The non-foaming characteristics of Metal Guard 800-D make it an ideal product for use in the final rinse in power washers.

Concentration	0.1 – 1.0% by volume in final rinse
Temperature	100 – 160°F (37 – 71°C)

Vibratory Tumbling Flow-Thru Systems

Because, Metal Guard 800-D is a liquid it is ideal for use in vibratory tumbling flow-thru systems via automatic aspirators or similar arrangements. Metal Guard 800-D make-up is easy because there are no solubility or crystallization problems.

Concentrations for gravity feed flow-thru systems would be 0.5 to 3.0% by volume.

In some vibratory flow-thru systems, Metal Guard 800-D may be the compound used throughout the tumbling cycle. It functions as a cleaner, rust inhibitor, lubricant and burnisher. Its mild nature makes it ideal for use in vibratory finishing of zinc surfaces.

Titration Method

1. Pipette a 25 mL sample of Metal Guard 800-D into a 250 mL Erlenmeyer flask.
2. Add about 25 mL of distilled water.
3. Add 5 to 10 drops of mixed indicator. (50% Bromocresol Green, 50% Methyl Red).
4. Titrate with 0.5 N Hydrochloric Acid until the color changes from blue to yellow.

Calculation

Concentration = mL 0.5 N HCl x 0.37

Test Kit Method

1. Fill test bottle ¼ full of water.
2. Add 5 mL Metal Guard 800-D solution using syringe provided.
3. Add 5 -10 drops Methyl Orange Indicator.
4. Add 0.72 N Hydrochloric Acid solution dropwise until solution turns from yellow to red orange.
5. Record number of drops of 0.72 N Hydrochloric Acid solution used.

Calculation

Concentration = # Drops 0.72 N HCl x 0.105

Waste Disposal

Neutralize solutions of Metal Guard 800-D to a pH between 6.0 and 8.0 with a mineral acid. Use caution when adding the acid since neutralization generates heat. Discharge the neutralized solution to sewer or settling lagoon. In order to be completely informed on the latest disposal regulation for your area, please contact the local authorities.

Caution

Metal Guard 800-D 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.

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