

# Emerald PD S

**Emerald PD S** is a mildly alkaline liquid product, which was developed for use in pressure spray wash machines to clean ferrous metals. **Emerald PD S** will remove a variety of forming and machining lubricants (synthetic, petroleum base, sulfurized, etc.), And provide defoaming action on lubricants which tend to cause foaming as they build up in the cleaner solution.

## Features & Benefits

1. Free rinsing, rinses to a no-water-break surface
2. Caustic free
3. Low foaming
4. Liquid form makes it easy to add. No dangerous spatters or dissolution problem
5. Mixes readily with cold water
6. Biodegradable surfactant system
7. Chelator free
8. Nitrite free
9. Phosphate free
10. pH operating range: 9.7 to 9.9

## Physical Data

|                     |                                 |
|---------------------|---------------------------------|
| Specific gravity    | 1.108                           |
| Solubility in water | complete                        |
| Appearance and odor | water white liquid, fruity odor |
| pH (conc.)          | 9.5 - 10.0                      |

## Operating Conditions

|               |                                                |
|---------------|------------------------------------------------|
| Concentration | 2-7% (vol.) - suggest 5% for most applications |
| Temperatures  | 120 F to 190 F                                 |
| Equipment     | mild steel tanks and heating coils             |

**NOTE: HEAT TO 120 F BEFORE OPERATING SPRAY WASHER**

## Controls

### TEST KIT PROCEDURE

1. Fill sample bottle one third full with water.
2. Add 5 mls cleaner solution.
3. Add 8 drops methyl orange indicator solution.
4. Add N-94 solution dropwise until color turns from yellow to orange. Record number of drops used.

$$\% \text{ (Vol) Emerald} = 0.2 \times \text{Number Of Drops Of N-94 Solution}$$

### TITRATION PROCEDURE

1. Pipette a 100 ml sample into a 250 ml Erlenmeyer flask.
2. Add 4 drops phenolphthalein indicator and mix.
3. Titrate with 0.5 N hydrochloric acid until the color changes from pink to colorless.
4. Calculations:

$$\text{MLS OF 0.5N Hydrochloric Acid} \times 0.68 = \% \text{ (Vol)}$$

## 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.

## Caution

**Emerald PD S** is an alkaline product and should be handled accordingly. Avoid skin and eye contact. Wear protective clothing, goggles and gloves. Flush exposed areas immediately with clean cold water. Contact a doctor promptly 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.



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## Product Bulletin

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For more information on this process,  
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