



## Product Bulletin

Better Chemistry. **Better Business.**

**Emerald ICP SD**

**Product Code: 3800138**  
**Revised Date: 03/23/2010**

### **Emerald ICP SD**

(Super heavy-duty environmentally friendly soap based cleaner for all substrates)

**Emerald ICP SD** is an environmentally friendly mildly alkaline, low foam, water soluble, liquid cleaner developed for cleaning ferrous metals, copper, brass alloys, stainless steels, aluminum, nickel alloys, and nickel coated substrates. It may be used as an immersion / soak clean, agi-dip soak cleaner, ultrasonic cleaner, or as a spray cleaner in spiral washers. **Emerald ICP SD** cleans and brightens most copper alloys.

**Emerald ICP SD** is formulated using surfactants (detergents) and water-soluble solvents that are listed as environmentally acceptable by a third party certification body. It contains no phosphates, borates, caustic, nitrite, or silicates.

**Emerald ICP SD** will emulsify and disperse hard to clean soils such as lard, sulfurized, and chlorinated based stamping, forming and drawing oils, general shop oils, and synthetic lubricants. It is excellent at removing fine particulate soils, commonly referred to as smut, from deep drawn and stamped parts.

**Emerald ICP SD** can be used in a no rinse application due to its water shedding characteristic. When use in a no rinse application it is beneficial to run a two tank sequence in which tank one operates at twice the concentration of tank two. When tank one becomes contaminated with oils and soils to the extent that its performance decreases to an unacceptable level it may be dumped. The solution in tank two can then be transferred to tank one. Its concentration should be raised to that of tank one and a fresh solution could be made in tank two.

Emulsified oils may be removed from Emerald ICP SD solution by micro filtration thus greatly extending solution life.

**Emerald ICP SD** may be used as an ultrasonic cleaner to remove buffing compounds from aluminum, brass, bronze, steel, and stainless steel. It may also be used in mass finishing operations as a cleaner and burnishing de-burring compound. When used in mass operations of brass, copper, and copper based alloys it will product a lustrous bright finish offering short-term tarnish resistance.



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#### FEATURES

Concentrate liquid  
Safe  
Rapid soil removal  
Non-corrosive  
No phosphates  
Emulsifies most soils  
Effective particulate removal  
Leaves corrosion resistant film  
Eliminates flash corrosion and imparts lubricity  
Multiple uses

#### BENEFITS

Rapidly mixed, less down time  
Lessens or eliminates worker complaints  
High productivity  
Less equipment maintenance and replacement  
Simple waste treatment  
Long solution life  
Eliminates smut a common quality issue  
Eliminates multi-product inventory.

#### OPERATING CONDITIONS

*When used as a cleaner:*

Concentration: 4 to 6% by volume. Typical: Spray 1 to 3%. Immersion 5-10%  
Temperatures: 150 to 200F (65 – 93C).  
Time: 2 to 10 minutes.  
Equipment: mild steel tank and heating coils.  
Ventilation: PVC or stainless steel to remove water vapor.

*When used as a mass finishing compound:*

Concentration: 0.5 to 2% (volume).  
Temperature: Ambient  
Time: 5 to 60 minutes depending on application.  
Equipment: Vibratory finishing mills, tubs and oblique barrels.  
Ventilation: Not required

*When used in no rinse cleaning applications:*

Concentration: Tank 1; 5-10% vol. Tank 2; 2.5 to 5% vol.  
Temperature: Tank 1; 140 to 160 F. Tank 2; 160 to 180 F.  
Time: 5 min. in each tank  
Equipment: Mild steel or stainless steel  
Ventilation: PVC or stainless steel to remove water vapor.



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### TITRATION PROCEDURE

1. Pour a 25-ml sample of **Emerald ICP SD** into a 250-ml Erlenmeyer flask.
2. Add 1 ml bromcresol purple- swirl flask to insure complete mixture.
3. Titrate with N-94 Test solution until the solution turns from purple to yellow.
4. Record drops of acid used.

$$\text{Concentration Emerald ICP SD (\% VOL)} = \# \text{ Drops} \times 1.0$$

### CAUTION

**EMERALD ICP SD** is a mildly 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.

### WASTE DISPOSAL

Discharge spent working solutions and rinse waters to a permitted wastewater disposal system. In order to be completely informed on the latest regulations for your area, please contact the local authorities.

### 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.