Emerald™ ICP 1

Emerald ICP 1 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 1 cleans and brightens most copper alloys.

Emerald ICP 1 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 1 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 1 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 produce a lustrous bright finish offering short-term tarnish resistance.

Features & Benefits

Concentrate liquid	Rapidly mixed, less down time
Safe	Lessens or eliminates worker complaints
Rapid soil removal	High productivity
Non-corrosive	Less equipment maintenance and replacement
No phosphates	Simple waste treatment
Emulsifies most soils	Long solution life
Effective particulate removal	Eliminates smut a common quality issue

Operating Conditions

When used as a cleaner

Concentration	3% – 10% Spray 3% – 5% Immersion 5% – 10%
Temperature	150°F – 200°F (65°C – 93°C)
Time	2 – 10 min
Equipment	Mild steel tank and heating coils
Ventilation	To remove water vapor

When used as a burnish

Concentration	3% – 5%
Temperature	Ambient
Time	5 – 60 min depending on application
Equipment	Vibratory finishing mills, tubs and oblique barrels
Ventilation	Not required

Titration Method

1. Using a 100 mL graduated cylinder, pour 300 mL of cleaner into a 500 mL Erlenmeyer flask.
2. Add 20 drops Bromocresol Purple indicator.
3. Titrate with 0.5 N Hydrochloric Acid from purple to a yellow end point.
4. Record mL used.

Calculation

Concentration = mL 0.5 N HCl x 0.56

Test Kit Method

1. Pour a 25 mL sample of Emerald ICP 1 into a mixing bottle.
2. Add 10 to 20 drops Bromocresol Purple. Swirl bottle to insure complete mixture.
3. Add 0.72 N Hydrochloric Acid dropwise while mixing until the solution turns from purple to yellow.
4. Record the number of drops used.

Calculation

Concentration = # Drops 0.72 N HCl x 0.38

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.

Caution

Emerald ICP 1 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.

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For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**[136].