



Better Chemistry. **Better Business.**

Emerald Acid Clean LF

Product Code: 2052099
Revised Date: 10/20/2011

Emerald Acid Clean If
Heavy Duty Organic Acid Cleaner – Low Foam

Emerald Acid Clean LF is an acidic soak, ultrasonic, spray cleaner that may be used for the removal of a variety of soils and oxides from aluminum, stainless steel, steel, cast iron, copper, brass, Monel, and other high nickel alloys. **Emerald Acid Clean LF** contains a high percentage of DfE acceptable surfactants and solubilizers, designed to remove forming lubricants, machining oils, and light rust or scale from these substrates. It is also effective for lime scale removal.

Emerald Acid Clean LF is used in spray cleaning applications where bath temperatures are 150 F. or less.

Note: **Emerald Acid Clean LF** will not remove heavy scale from stainless steel alloys or heavy rust and scale from steel. Emerald Acid Clean #1 when used as recommended will produce little if any etch on most aluminum alloys.

Emerald Acid Clean LF can be used for vibratory finishing of copper alloys, stainless steel, steel, Monel, and other substrates when low to moderate foam levels are desired. **Emerald AB 1** is recommended for part on part burnishing in tumbling barrels as it produces heavier foam to cushion parts.

FEATURES

- Highly concentrated
- High detergency
- DfE approved wetting and solvent system
- Can be used as a burnishing compound
- Removes light rust and scales
- Contains no mineral acids
- Non-fuming
- Safe

PHYSICAL DATA

Specific gravity1.206
 Solubility in water.....complete



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Appearance and odor water white, clear, citrus odor
pH 1.0 to 2.0

OPERATING CONDITIONS

5% to 25% (volume) - the dilution will depend upon the soils involved. The rate at which soils, rust, and oxides are removed can be affected by build-up of iron or other metallic salts in the working solutions. This may be compensated for to some extent by increasing the temperature and or the solution concentration.

Temperature room to 170 °F (77 °C)
Ventilation when heated or used in spray systems

When used for cleaning aluminum a concentration of 5 to 10% by volume at temperatures up to 170 degrees F with dwell times of 5 to 10 min. is recommended. These parameters will result in little or no etch on most aluminum alloys.

For spray applications a concentration of 2 to 5% by volume with a temperature of 160 to 170 F. is recommended.

When used as a burnish compound a concentration of 0.2 to 1% by volume is recommend. For the removal of heavier oxides concentration of 5 to 10% by volume may be required.

NOTE: **Processing** copper, brass, or bronze parts in the same tank as steel may eventually lead to immersion copper deposits on the steel parts. It is recommended to use a separate tank for cleaning copper and copper based alloys.

Equipment stainless steel, polypropylene, polyethylene
..... Fiberglass or rubber lined tanks
Heater stainless steel or nickel-plated steel piping

CONTROL PROCEDURE

TITRATION METHOD



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1. Take a 25.0 ml sample of **Emerald Acid Clean LF** solution into a 250 ml Erlenmeyer flask and dilute to 50 ml with water.
2. Add 3 to 5 drops of phenolphthalein.
3. Titrate to pink endpoint with 1.0 N sodium hydroxide solution.
4. Record ml of sodium hydroxide used.

% by volume Emerald Acid Clean #1 = 0.490 x ML OF 1.0 N Sodium Hydroxide Used

TEST KIT METHOD

Using the syringe provided, place a 0.5 ml sample into sample bottle and fill bottle 1/4 full of water, add 5 drops of phenolphthalein indicator. Add N-72 solution drop wise until solution turns a definite yellow.

% by volume Emerald Acid Clean LF = 0.60 x Drops N-72 Solution

WASTE DISPOSAL

Neutralize solutions of **Emerald Acid Clean LF** to a pH of 6 to 8 with either caustic soda or soda ash before discarding. In order to be completely informed on those latest waste disposal regulations for your area; please contact the local authorities.

CAUTION

Emerald Acid Clean LF is an acidic product; avoid skin, eye and oral contact. Wear protective clothing, facemask, chemical goggles and gloves when handling the product and its made-up solutions. Flush exposed areas immediately with copious amounts of clean, cold water. Contact a doctor immediately 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



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GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.