

## E-Kleen™ SR 102-E

### Liquid Heavy Duty, High Caustic Non-Silicated Soak Cleaner for Steel that removes carbon smut from smutty carbon steels

**E-Kleen SR 102-E** is a liquid mixture of surface active agents, immersion desmutters, detergents and caustic that will emulsify the soils and oils. **E-Kleen SR 102-E** contains over 16% by weight of surfactants/detergents/desmutter resulting in long life of material. **E-Kleen SR 102-E** removes carbon on smutty steels. This results in better adhesion, brighter plated parts and smut free black oxidized parts. Traditional powders usually contain 2 - 6% by weight surfactants/detergents and do not remove the smut.

**E-Kleen SR 102-E** does not contain any silicates.

**E-Kleen SR 102-E** is free rinsing, leaving a surface free of residual cleaning solutions which is necessary for use prior to plating and/or using **Ultra-Blak** or **Insta-Blak** to blacken metals.

#### SOLUTION MAKE UP & PARAMETERS

**E-Kleen SR 102-E** is used at 6 to 15% by volume in water.

**Temperature:** 130 - 195°F

#### EQUIPMENT

Tanks should be constructed of mild steel or stainless steel. Racks, baskets and barrels must be of a material compatible with other metal finishing solutions used thereafter. Do not use galvanized steel, bronze, copper, tin or aluminum. Heaters may be of mild steel.

#### SOLUTION CONTROL

##### A. Titration Method

1. Take a sample of the **E-Kleen SR 102-E** solution from the bath with a beaker and allow to cool to room temperature.
2. Measure out 20 ml of the sample with a 20 ml pipette and transfer to a clean 250 ml Erlenmeyer flask. Add 25 ml of water.
3. Add 5 drops of Phenolphthalein Indicator.
4. Titrate with 1.0N Hydrochloric Acid until the color suddenly changes from pink to colorless.
5. Calculation:  
Concentration of **E-Kleen SR 102-E** (% by volume) = ml of HCL x 0.89 x (Normality of HCL)

B. Dropping Bottle Method (Test Kit Available from **EPI**).

1. Measure out 5 ml of the **E-Kleen SR 102-E** solution with a 10 ml graduated cylinder and add to a 250 ml beaker. Add 10 ml of DI water.
2. Add 4 to 5 drops Phenolphthalein Indicator to the solution.
3. Add dropwise 5N Sulfuric Acid solution while counting the drops and swirling the solution.
4. Stop adding the drops when the color suddenly changes from pink to colorless.
5. Calculation:

Concentration of **E-Kleen SR 102-E** (% by volume) = number drops Acid x 0.425

**CAUTION**

**This material contains caustic soda. May cause severe burns.** Do not get in eyes, on skin or on clothing. Avoid breathing mists. Do not take internally. When handling, wear goggles or face shield. While making up solutions, or adding to a solution, add slowly to surface of solution to avoid violent spattering. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. For eyes, call a physician.

**Do not** mix **E-Kleen SR 102-E** with acidic materials, or any other chemical substances. **Do not** work with **E-Kleen SR 102-E** without first reading and understanding the **Material Safety Data Sheet** furnished by **EPI**.

**Packaging**

5 gallon and 55 gallon, (net) in plastic, non-returnable containers. Keep lid on when not in use.

**IMPORTANT NOTICE! For Industrial Use Only**

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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