

## E-Kleen™ 127

### Liquid, Alkaline Soak and Electro cleaner for Steel & Copper

**E-Kleen 127** is a unique liquid concentrate of surfactants and caustic used primarily for the alkaline soak and electro cleaning of steel and copper. The product, in solution, offers high conductivity needed for efficient electro cleaning with high current carrying capacity. The unique surfactant chemistry results in an efficient soak cleaner as well. In many cases of light soils and oils it can be used as a soak cleaner at 8-12% by volume. With heavier soils **EPI** recommends **E-Kleen 196** or **E-Kleen 148-E** liquid soak cleaners prior to **E-Kleen 127**.

**E-Kleen 127** has the unique characteristic of being freezable, even with the high Sodium Hydroxide concentration without having the typical crystallization problems most liquid cleaners experience. It thaws out at room temperature without crystallization.

**E-Kleen 127** contains no phosphates or chelates which could interfere with waste treatment and so is environmentally acceptable. **E-Kleen 127** does not contain silicates.

The well-balanced mixture of alkaline builders and surfactants in **E-Kleen 127** offers a long bath life for the product and the buffering agents prevent attack of the high current density areas of the metal during anodic electro cleaning.

#### OPERATING PARAMETERS

<u>CLEANER</u>	<u>ELECTROCLEANER</u>	<u>SOAK</u>
	<u>Steel &amp; Copper</u>	<u>Steel &amp;</u>
<u>Copper</u>		
<b>Concentration:</b> volume	5 - 12% volume	8 - 12%
<b>Temperature:</b>	140 - 200°F	140 - 200°F
<b>Time:</b> minutes	60 -90 seconds	2 - 10
<b>Polarity:</b>	Anodic (Reverse)	N/A
<b>Voltage, Rack:</b>	5 - 6V	N/A
<b>Voltage, Barrel:</b>	12 - 15V	N/A
<b>Current Density, amps/ft<sup>2</sup> Rack</b>	15 - 80 amps	N/A
<b>Current Density, amps/ft<sup>2</sup> Barrel</b>	20 - 30 amps	N/A

## **EQUIPMENT**

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

## **SOLUTION MAKE-UP**

**E-Kleen 127** can be added to cold or warm water while stirring. When charging a production tank, slow addition of **E-Kleen 127** is recommended.

The **E-Kleen 127** solution concentration is maintained with periodic additions of cleaner to replace that consumed by soil removal and also that lost due to solution dragout. The strength of the solution is determined chemically with either a burette titration or dropping bottle test. When the cleaning solution becomes excessively contaminated with soils, it should be dumped and a new cleaning solution made up.

## **SOLUTION CONTROL**

### A. Titration Method

1. Take a sample of the **E-Kleen 127** solution from the bath with a beaker and allow to cool to room temperature.
2. Pipette out 25 ml of the sample and transfer to a clean 125 ml Erlenmeyer flask. Add 25 ml of water.
3. Add five (5) drops of Phenolphthalein Indicator to produce a pink colored solution.
4. Titrate with 1.0N Hydrochloric Acid until the pink color suddenly disappears.
5. Calculation:  
Concentration of **E-Kleen 127** (% by volume) = (ml of HCl) x 0.34

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

1. Take a 10 ml sample of the cleaning solution and add along with 10 ml of water to a 150 ml beaker.
2. Add 4 to 5 drops of Phenolphthalein Indicator to beaker.
3. Add dropwise 5N Sulfuric Acid from a dropping bottle while counting the number of 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 127** (% by volume) = number drops Acid x 0.1

## **CAUTION**

**THIS MATERIAL CONTAINS CAUSTIC SODA. MAY CAUSE SEVERE BURNS.** Do not get in eyes, on skin or clothing. Avoid breathing mists. Do not take internally. When handling, wear goggles or face shield. While making up solutions, or adding **E-Kleen 127** to solutions, 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 127** with acidic materials, or any other chemical substance.

**Do not** work with **E-Kleen 127** without first reading and understanding the **SAFETY DATA SHEET** furnished by **EPI**.

### **PACKAGING**

Five (5) and 55-gallon plastic, non-returnable containers. Keep lid on when not in use. Store indoors in a dry area.

### **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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