

## E-Kleen™ 196

### Non-Emulsifying Soak Cleaner for Steel and All Metals

**E-Kleen 196** is a heavy duty silicated-alkaline liquid detergent formulation which is very effective in removing baked on carbon, cutting oils, waxes, buffing compounds and other soils. **E-Kleen 196** works well in black oxide and plating lines.

It contains no chelaters and phosphates, which makes waste treatment easier.

**E-Kleen 196** is ideal for cleaning metal parts in a soak cleaning tank. Its surfactants penetrate and loosen stubborn soils, floating the oil to the surface of the solution.

**E-Kleen 196** is a low caustic and non-emulsifiable (floats oil) cleaner and should only be used where an oil separator is in place.

**E-Kleen 196** has effectively replaced many cleaners due to its enhanced cleaning abilities and its solution life has proven to be almost twice as long as competitive cleaners. Temperature is important for effective cleaning. At 190°F and above, the effectiveness of the surfactant system doubles as compared to 140°F. However, at 140°F, **E-Kleen 196** is still a very effective cleaner.

#### OPERATING PARAMETERS

Concentration:	Soak Cleaning:	5 to 12% by volume in water
Temperature:	140°F to 220°F	

The required cleaning time will depend upon the type and degree of soil present on the metal surfaces and on the concentration and temperature of the **E-Kleen 196** solution.

#### EQUIPMENT

Tanks may 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. Adequate forced ventilation must be provided if misting is present.

#### SOLUTION MAKE-UP

Mix the **E-Kleen 196** liquid concentrate with water as listed above.

The **E-Kleen 196** working solution concentration is maintained with periodic additions of the liquid concentrate to replace that consumed by removing soils or due to drag out in

soak cleaning operations. The strength of the working 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 solution made up.

## **SOLUTION CONTROL**

### **A. Burette Titration Method**

1. Take a sample of the **E-Kleen 196** solution and allow to cool to room temperature.
2. Pipet 10 ml sample into a clean 125 ml Erlenmeyer flask. Add 50 ml of water.
3. Add 4 drops of Phenolphthalein Indicator to produce pink color.
4. Titrate with 0.1N Hydrochloric Acid from pink to colorless.

$$\text{Concentration of E-Kleen 196 (\% by volume)} = (\text{ml. of Acid}) \times 1.05$$

### **B. Dropping Bottle Method**

1. Measure a 10 ml sample of the **E-Kleen 196** solution with a 10 ml graduated cylinder and add along with 50 ml of water to a 125 ml Erlenmeyer flask.
2. Add 4 to 7 drops of Phenolphthalein Indicator to produce a pink colored solution.
3. Add dropwise 5N Sulfuric Acid from a dropping bottle while counting the drops and swirling the solution.
4. Stop adding drops when solution suddenly changes color from pink to colorless.

$$\text{Concentration E-Kleen 196 (\% by volume)} = \text{number drops 5N Sulfuric Acid} \times 1.55$$

## **CAUTION**

**E-Kleen 196** and its solutions are mildly alkaline. Do not get in eyes, on skin or clothing. Avoid breathing mists. Do not take internally. When handling, wear goggles or face shield. 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 196** with acidic materials, or any other chemical substances.

**Do Not** work with **E-Kleen 196** without first reading and understanding the **SAFETY DATA SHEET** furnished by **EPI**.

## **PACKAGING**

Five (5) and 55-gallon non-returnable containers.

**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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