

## **E-Kleen™ 148-E**

### **Liquid Emulsifiable Alkaline Soak Cleaner For Steel and All Metals**

**E-Kleen 148-E** is a heavy-duty liquid detergent formulation which is very effective at low operating temperatures on all metal surfaces and without etching aluminum. **E-Kleen 148-E** is an emulsifiable soak cleaner and is suited for use on **Insta-Blak**, plating, and phosphatizing lines. It contains no chelaters.

**E-Kleen 148-E** is ideal for cleaning metal parts in soak cleaning.

**E-Kleen 148-E** is a low caustic, emulsifiable (doesn't float oil) cleaner.

#### **OPERATING PARAMETERS**

**Concentration:** Soak Cleaning: 5 to 12% by volume in water

**Temperature:** 100° to 150°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 148-E** 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 148-E** liquid concentrate with water.

The **E-Kleen 148-E** 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 148-E** solution and allow to cool to room temperature.
2. Pipet a 50 ml sample into a clean 125 ml Erlenmeyer flask.
3. Add 4 drops of Phenolphthalein Indicator.
4. Titrate with 1.0N Hydrochloric Acid until the pink color disappears.

**Concentration of E-Kleen 148-E (% by volume) = (ml of Acid) x 2.33**

## B. Dropping Bottle Method

1. Measure 20 ml sample of **E-Kleen 148-E** solution with a 25 ml graduated cylinder and transfer to a clean 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.

**Concentration E-Kleen 148-E (% by volume) = number drops 5N Sulfuric Acid x 1.00**

**Note:** When using **E-Kleen 148-E** at low concentrations of 0.5 to 2.0% as a spray cleaner, use 1N Sulfuric Acid in the dropping bottle.

Calculation: With 1N Sulfuric Acid:

**Concentration E-Kleen 148-E = number of drops 1N Acid x 0.20**

The 1N Sulfuric Acid may also be used with the stronger solutions of 4 to 8% for example, but the number of drops will be in the range of 25 to 50 whereas with 5N the drops will be on the order of 5 to 10.

### **CAUTION**

**E-Kleen 148-E** and its solutions are mildly alkaline. Do not get in eyes, on skin or clothing. Avoid breathing dusts or 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 148-E** with acidic materials, or any other chemical substance.

**Do not** work with **E-Kleen 148-E** without first reading and understanding the **MATERIAL SAFETY DATA SHEET** furnished by **EPI**.

### **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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