

## E-Kleen™ 163

### Neutral Phosphated Multi Cleaner for Aluminum, Brass, Steel, Zinc and Stainless Steel

#### SPRAY BOTTLE DIRECTIONS FOR ALUMINUM

**E-Kleen 163** is a neutral phosphate cleaner for baked on oily, greasy and heavily stained aluminum surfaces. **E-Kleen 163** is used at room temperature, 65-90°F (18-32°C).

1. Wear personal protective equipment; safety glasses, arm length gloves and an apron.
2. Spray 4-8 inches away from the part. Let the **E-Kleen 163** work on the soil for 1-3 minutes. Use a sponge or plastic bristle brush.
3. Flush the aluminum with fresh tap water such as a hose or a spray bottle of water to stop the cleaning action.
4. Air dry the aluminum or dry with a properly grounded hair dryer for a spot free appearance.
5. If you still need a brighter finish, try **E-Kleen 155** non-phosphated acid cleaner or **E-Kleen 156** phosphated aluminum cleaner. Follow the **E-Kleen 155** or **E-Kleen 156** technical data instructions.

**E-Kleen 163** is available in concentrates, one, five and 55 gallons. To achieve the same results as the **E-Kleen 163** spray bottle, dilute the **E-Kleen 163** Concentrate to 25% by volume.

#### METAL FINISHING INSTRUCTIONS

**E-Kleen 163** is a liquid neutral soak cleaner based on phosphates. It provides excellent detergency and cleaning of all metal surfaces. It contains organic surfactants and corrosion inhibitors but no caustic soda or chelants. It also does not deposit on the side of the tank like other cleaners.

**E-Kleen 163** cleans water soluble oils, petroleum and animal fat buffing compounds. It emulsifies oil. In most cases the buffing compound will not emulsify settling to the bottom of the tank. A filter can be used to extend bath cleaner life. **E-Kleen 163** offers extended cleaner life (3-4 times longer) as compared to other buffing compound cleaners.

**E-Kleen 163** is intended for cleaning to remove stamping and cutting oils, drawing compounds, metal filings and chips.

**NOTE:** Copper will dissolve in **E-Kleen 163** solutions turning them blue which means copper immersion on steel and on zinc is possible when copper is present. For this reason, avoid using the same soak cleaning solution for cleaning steel and zinc parts that is used for cleaning copper and/or brass parts.

## **METAL FINISHING EQUIPMENT RECOMMENDATIONS**

Mild steel and stainless steel are suitable construction materials for tanks, heaters and heating coils.

## **METAL FINISHING OPERATING CONDITIONS**

**E-Kleen 163 concentration:** 5 to 15% by volume  
**Temperature:** 120 - 200°F  
**Time:** 1 – 10 minutes

Some solution agitation improves cleaning however air is not recommended as it causes foam.

## **METAL FINISHING SOLUTION MAKE UP**

Mix the **E-Kleen 163** liquid concentrate with water.

The **E-Kleen 163** working solution concentration is maintained with periodic additions of the liquid concentrate to replace that consumed by removing soils or due to drag-out. 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.

## **METAL FINISHING SOLUTION CONTROL**

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

1. Take a sample of the **E-Kleen 163** solution and allow to cool to room temperature.
2. Pipette a 25 ml sample and transfer to a clean 125 ml Erlenmeyer flask. Add 25 ml of water.
3. Add 10 drops of Bromophenol Blue Indicator.
4. Titrate with Hydrochloric Acid until the color changes from blue to yellow.

$$\text{Concentration of E-Kleen 163 (\% by volume)} = (\text{ml of Acid}) \times (\text{N HCl}) \times 2.94$$

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

1. Take a 25 ml sample of the **E-Kleen 163** solution with a 25 ml graduated cylinder and add along with 25 ml of water to a 125 ml Erlenmeyer flask.
2. Add 10 drops of Bromophenol Blue Indicator.
3. Add dropwise 5N Sulfuric Acid from a dropping bottle while counting the drops and swirling the solution.
4. Stop adding drops when solution changes color from blue to yellow.

$$\text{Concentration of E-Kleen 163 (\% by volume)} = \text{number drops 5N Sulfuric Acid} \times 0.43$$

## **CAUTION**

**E-Kleen 163** and its solutions are mildly alkaline. Do not get in eyes, on skin or on clothing. 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 163** with acidic materials or any other chemical substance.

**Do not** work with **E-Kleen 163** without first reading and understanding the **MATERIAL SAFETY DATA SHEET** furnished by **EPI**.

## **PACKAGING**

One (1) 32 oz Spray bottle, One (1) 5 (five) 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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