

## **E-Kleen™ 156**

### **Phosphated Acid Aluminum Cleaner & Brightener**

#### **SPRAY BOTTLE DIRECTIONS**

**E-Kleen 156** is used as received and at room temperature, 65-90°F (18-32°C). If the aluminum piece has no oil/grease on the part, proceed using the **E-Kleen 156** directly. If the aluminum part has an oily film, use **E-Kleen 163** neutral cleaner for aluminum surfaces first and then the **E-Kleen 156**. Some soiled aluminum surfaces may require 2 or 3 applications of **E-Kleen 163** and **E-Kleen 156**. A sponge or plastic bristle brush may assist in removing the soil.

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 156** work on the soil for 1-3 minutes. Use a sponge or plastic bristle brush.
3. Flush the aluminum with fresh tap water/hose or use a spray bottle of fresh tap water. 10-30 seconds.
4. Air dry or dry with a properly grounded hair dryer for a spot free appearance

**E-Kleen 156** is available in concentrates one, five and 55 gallons.

Go to: <http://www.epi.com/pages/aluminium-cleaners> to get the latest pricing. To achieve same spray bottle results, dilute 15% by volume.

#### **METAL FINISHING DIRECTIONS**

**E-Kleen 156** is a phosphated liquid concentrate blend of acid and surfactants formulated to achieve in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. It can be used following conventional alkaline soak cleaners to ensure neutralization of residual alkalinity prior to acidic blackening or oxidizing processes. It is an effective surface conditioner/activator prior to **Insta-Blak** acidic blackening processes. It will remove light oils, light rust and most shop soils efficiently and quickly.

**E-Kleen 156** cleans aluminum very well with slow controlled etching of the aluminum surface. It is also a good pre-paint conditioner for steel.

#### **METAL FINISHING EQUIPMENT**

Tanks to contain **E-Kleen 156** should be constructed of stainless steel, rubber lined steel, polypropylene, polyethylene or PVC. Heaters must be acid resistant.

#### **METAL FINISHING SOLUTION MAKE-UP AND OPERATION**

**E-Kleen 156** may be used at concentrations ranging from 5% to 50% by volume in water and temperatures from 65° to 140°F. The required concentration, immersion time, and temperature will depend upon the degree and type of soils present and surface oxidation. A 5% by volume concentration is recommended for surface activation. A 50% by volume concentration is required

with heavily oxidized surfaces. Elevated temperatures will reduce the processing time. Agitation of the part(s) or the solution enhances the activity.

### **METAL FINISHING SOLUTION CONTROL**

The strength of the **E-Kleen 156** working solution is easily determined with the following procedures:

#### **Titration Procedure**

1. Transfer 2 ml of the **E-Kleen 156** solution with a pipette to a 250 ml Erlenmeyer Flask. Add 50 ml of DI water.
2. Add 6 to 8 drops of Phenolphthalein Indicator.
3. Slowly add 0.1 N Sodium Hydroxide from a burette while constantly swirling the solution until a permanent pink to red color develops.
4. Percent (%) by volume **E-Kleen 156** = number of ml 0.1 N Sodium Hydroxide x 0.89

#### **Dropping Bottle Procedure**

1. Transfer 10 ml of the **E-Kleen 156** solution with a graduate to a 150 ml beaker. Add 5 to 10 ml of water.
2. Add 6 to 8 drops of Phenolphthalein Indicator.
3. Slowly add 12N Sodium Hydroxide from a dropping bottle. Count the drops while constantly swirling the solution until a permanent pink to red color develops.
4. Percent (%) by volume **E-Kleen 156** = number of drops 12N Sodium Hydroxide x 0.56

A test kit for this procedure is available from **EPI**.

### **CAUTION**

**E-Kleen 156** is an acidic solution and may cause skin irritations. Avoid contact with skin and eyes. In case of contact, flush skin and/or eyes with plenty of water. For eyes, get medical attention. Do not take internally. Use with adequate ventilation. Wear eye protection (glasses, goggles or face shields), protective gloves and rubber apron when mixing the solution and when working with the solution.

Avoid contact with cyanide and alkaline materials. **Do not** mix **E-Kleen 156** with any other chemicals or solutions.

Read and understand the **MATERIAL SAFETY DATA SHEET** provided by **EPI** prior to mixing the solution or working with the solution.

### **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: sellers and manufacturers 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.**

4/3/09