Electrochemical Products Inc.
17000 WEST LINCOLN AVE. / NEW BERLIN, WI 53151-2781
PH 262-786-9330 / FAX 262-786-9403

TECHNICAL DATA

E-Kleen™ 154

Acidic, Solvent Metal Cleaner and Mild Aluminum Etchant

E-Kleen 154 is a liquid concentrate blend of acid, solvent, surfactants and complexers, formulated to achieve in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. It is recommended for use 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, light heat-treat scale and most shop soils efficiently and quickly.

E-Kleen 154 cleans aluminum very well with slow controlled etching of the aluminum surface. It is also a good pre-paint conditioner for steel.

EQUIPMENT

Tanks to contain **E-Kleen 154** should be constructed of stainless steel, rubber lined steel, polypropylene, polyethylene or PVC. Heaters must be acid resistant.

SOLUTION MAKE-UP AND OPERATION

E-Kleen 154 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.

SOLUTION CONTROL

The strength of the **E-Kleen 154** working solution is easily determined with the following procedures:

Titration Procedure

1. Transfer 10 ml of the **E-Kleen 154** solution with a pipette into a 250 ml Erlenmeyer Flask. Add 50 ml of DI water.
2. Add 6 to 8 drops of Phenolphthalein Indicator.
3. Slowly add 1.0 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 154** = number of ml of 1.0N Sodium Hydroxide x 0.76

Dropping Bottle Procedure

1. Transfer 5 ml of the **E-Kleen 154** 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 154** = number of drops 12N Sodium Hydroxide x 0.45

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

Process for removing the laser scale from parts

10% @ ~120-140ºF. Soak parts for 5-7 minutes.

CAUTION

E-Kleen 154 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 154** with any other chemicals or solutions.

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

PACKAGING

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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