

## **E-Pik™ 271**

### **Inhibited Acid Deruster/Descaler**

#### **Description**

**E-Pik 271** is an inhibited acid concentrate used for rust and scale removal from steel and stainless steel without severe attack of the base metal. **E-Pik 271** can remove heavy rust, heat treat scale and hard water scale without the danger of hydrogen embrittlement. The presence of the inhibitor in **E-Pik 271** also helps to minimize smut formation while pickling high carbon steel.

**E-Pik 271** normally works at room temperature, but for faster speed or greater economy it can be used at slightly elevated temperatures. It does not contain any phosphates or chelates to interfere with waste treatment.

#### **Equipment**

Tanks or tank linings made of PVC, rubber and polypropylene are suitable. Heating elements made of quartz and Teflon are best.

#### **Operating Conditions**

**E-Pik 271** concentration 15 to 50% by volume

**Temperature** - from room up to 100°F

**Time** - 2 to 10 minutes or longer depending upon the nature and amount of rust and scale

**Note:** Prior to pickling in **E-Pik 271**, the parts should be cleaned in **E-Kleen 105**, a compatible alkaline soak cleaner, at 6 to 8 oz/gal., 140 to 160°F, 3 to 5 minutes and then rinsed. Likewise, following the pickling the parts after water rinsing could be either dipped into a solution of **E-Kleen 105** at 2 to 4 oz/gal. at 140-160°F or **E-Tec 527**, 1 to 4 fluid oz/gal. at 140-180°F which will avoid flash rusting and facilitate quick drying. Before **E-Pik 271** is used for heat treat scale removal from steel or stainless steel, the parts should be treated in **E-Pik 272** to soften the scale and facilitate its easy removal by **E-Pik 271**. Refer to **E-Pik 272** bulletin for details.

#### **Solution Control & Maintenance**

**E-Pik 271** concentration can be checked and maintained through the following analysis. The bath builds up iron during use. When the dissolved iron level reaches 6 to 8 oz/gal., as calculated from the Baume difference between the bath and the corresponding one

for a fresh bath of **E-Pik 271** at the same concentration, the bath is considered exhausted and should be dumped.

### **Titration**

1. Pipette a 10 ml sample of the **E-Pik 271** bath into a 250 ml Erlenmeyer flask. Add 100 ml of DI water and 2 to 3 drops of Phenolphthalein indicator.
2. Titrate with 1.0N NaOH to a pink end point.  
Titration reading ml x 1.05 = % by volume **E-Pik 271**

<b><u>Specific Gravity readings for E-Pik 271 at various dilutions</u></b>	
<b><u>E-Pik 271 Concentration</u></b>	<b><u>Specific Gravity</u></b>
<b><u>% by Volume</u></b>	<b><u>Baume</u></b>
100	17.5
90	16.0
80	14.2
70	12.8
60	11.0
50	9.2
40	7.2
30	5.8
20	4.4
10	2.2

**E-Pik 271** bath Baume - corresponding Baume for **E-Pik 271** bath concentration from above = oz/gal. iron.

### **Waste Treatment**

Spent solutions of **E-Pik 271** can be treated separately or mixed with other acid or alkaline solutions and adjusted with liquid caustic soda or lime to a pH level suitable for disposal.

### **Packaging**

**E-Pik 271** is available in 5- and 55-gallon non-returnable plastic 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 the use or the inability to use the product.**

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