



Better Chemistry. **Better Business.**

**Mi-Clean™ 59**

**Product Code: 2002018**  
**Revised Date: 01/26/2006**

### **Mi-Clean™ 59** Non-Silicated Aluminum Cleaner

**Mi-Clean™ 59** is a dry, non-dusty mixture of alkalies, surfactants and solvents designed to clean aluminum and aluminum alloys with a minimum of etching. It is capable of removing marking inks and fluids from aluminum surfaces while still providing a uniformly cleaned and etched surface ready for further processing.

#### **SOLUTION MAKEUP**

**Mi-Clean™ 59** is normally used at a concentration of 8 oz. per gallon of water and temperatures ranging from 120° to 160°F. The more difficult cleaning problems usually call for the higher temperatures, along with longer immersion times. To maintain solution efficiency, periodic small additions are made, depending on depletion by drag out and soil removal. Solutions should be discarded regularly when they become contaminated with soil to the point where cleaning efficiency is decreased.

**Mi-Clean™ 59** may be maintained at peak efficiency by the following simple chemical control.

#### **DROPPING BOTTLE CONTROL PROCEDURE FOR MI-CLEAN 59**

##### **EQUIPMENT**

- 1 25 ml Graduate Cylinder
- 1 250 ml Beaker
- 1 2 oz. Brom Phenol Blue Indicator
- 1 4 oz. Standard Sulfuric Acid

#### **CHEMICAL CONTROL PROCEDURE**

1. Measure out 25 ml of the cleaner solution into a 250 ml beaker.
2. Add three drops of Brom Phenol Blue Indicator to the cleaner solution.
3. Add the Standard Sulfuric Acid from the dropping bottle - drop by drop - counting out the drops while swirling the cleaning solution.
4. The end point is marked by a sudden change from blue to light green.



## Product Bulletin

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5. The number of drops of standard sulfuric acid used shows the strength of the cleaner solution as indicated in the following equation:

$$\text{Concentration Mi-Clean™ 59 (OZ/GAL)} = \text{Number Of Drops Of Acid} \times 0.16$$

### **EQUIPMENT**

Tanks and heating coils should be fabricated of mild steel or stainless steel and should be insulated to conserve energy. An adequate exhaust system should be present.

### **CAUTION**

In case of contact with skin or eyes, flush freely with water for at least 15 minutes. For eyes, obtain medical attention.

### **WARRANTY**

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.