



Better Chemistry. **Better Business.**

### Mi-Clean™ 24

**Product Code: 2052017**  
**Revised Date: 2/29/2016**

#### Mi-Clean™ 24

Acid Solvent Cleaner And Etchant

**Mi-Clean™ 24** is a high-strength, liquid concentrate composed of a blend of acid, solvent, surfactants and chelators designed to accomplish in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. It will remove most oils, rust, heat-treat scale and shop soils efficiently and quickly. It is a good prepaint conditioner for steel and cleaner/etchant for aluminum with slow-controlled etching.

In contrast to highly alkaline cleaners, it is very free rinsing in water.

**Mi-Clean™ 24** may be used in concentrations ranging from 5% to 50% by volume in water and temperatures from ambient to 140° F. The concentration, immersion time and temperature required will depend upon the degree of soil and surface oxidation. A 50% concentration is recommended with heavily rusted surfaces. A 5% concentration is recommended primarily for surface activation. Heating the solution will speed up the reaction and decrease the cleaning time.

**Mi-Clean™ 24** can be contained in tanks made of stainless steel, lined steel, polypropylene, polyethylene, PVC or other acid-resistant materials.

**Mi-Clean™ 24** concentrations may be maintained by simple periodic additions of concentrate or by a quick titration method, which is furnished upon request. It has a high tolerance for metals, soils and oils and does not pose a disposal problem.

#### **CAUTION**

May cause skin irritations. Use only with adequate ventilation. Do not breathe vapor. Avoid contact with skin or eyes. In case of contact, flush skin or eyes with plenty of water. For eyes, get medical attention. Do not take internally.

#### **TEST KIT PROCEDURE**

1. Using syringe, transfer 2.0 ml of the **Mi-Clean™ 24** solution to the mixing bottle.
2. Add 5 - 10 ml water.
3. Add 6 - 8 drops of Phenolphthalein Indicator.



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4. Add the 12.0 Normal Sodium Hydroxide dropwise, counting the drops while constantly swirling the solution until a permanent pink to red color develops.

**Mi-Clean™ 24 (% by volume) = number of drops of 12.0 Normal Sodium Hydroxide x 1.25.**

### TITRATION PROCEDURE FOR MI-CLEAN™ 24

1. Pipet 10 ml of cooled bath sample into a 250 ml flask.
2. Add about 75 ml water.
3. Add 5 drops Phenolphthalein Indicator.
4. Titrate with 1.0 N Sodium Hydroxide until solution color turns pink.

**% Mi-Clean™ 24 = mls 1.0 N Sodium Hydroxide X 0.60**

### 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.