



# Product Bulletin

*technicalservice@hubbardhall.com*

P.O. Box 790 • Waterbury, CT 06720-0790 • Tel: (203) 756-5521 • Fax: (203) 756-9017  
P.O. Box 969 • Inman, SC 29349-0969 • Tel: (864) 472-9031 • Fax: (864) 472-2117

## **AQUAEASE® PL 200**

**2053048**  
**10/29/2007**

**AQUAEASE® PL 200** is a liquid, moderately alkaline, phosphate-free soak, spray, ultrasonic, and electro-cleaner for ferrous and non-ferrous metals. It may also be used on aluminum when used at low concentrations (5% or less) and temperatures below 140 degrees F.

**AQUAEASE® PL 200** is effective at cleaning all soils including chlorinated and sulfurized oils from most metals. It is effective at performing the six essential steps in soil removal.

1. Wetting the soil
2. Saponifying animal or vegetable oils and fats
3. Emulsifying mineral oils and greases
4. Deflocculating dirt
5. Suspending soils
6. Preventing soil redeposit ion.

**AQUAEASE® PL 200** can be used in all types of cleaning equipment.

### **ADVANTAGES OF AQUAEASE® PL 200**

- Sprayable
- Liquid product, easy to add, readily soluble in water at any temperature.
- Phosphate free
- Cleans a variety of soils
- One product will safely clean a variety of metals
- Will separate some types of lubricants from **AQUAEASE® PL 200**
- Non-fuming, only water vapor is given off
- Wide operating parameters
- Can be used on a wide variety of metals
- Nitrite free
- Solvent free
- Effective at removing fine particulate soil

### **PHYSICAL DATA**

Specific gravity ..... 1.28  
 Solubility in water ..... infinite  
 Appearance and odor ..... amber liquid  
 pH (conc.) ..... 13 < 14

# AQUAEASE® PL 200

## OPERATING CONDITIONS

Concentration: 2% to 20% by volume  
Temperatures: 120° to 190°F (max)  
Immersion time: as required  
Equipment: mild steel, stainless, or polypropylene tanks

**Note:** AQUAEASE® PL 200 should never be carried directly into an alkaline etching solution when it is used for cleaning of aluminum. The work must always be rinsed prior to alkaline etching.

## CONTROLS

### TEST KIT PROCEDURE

1. Fill test kit bottle 1/2 way with water.
2. Using a syringe measure out a 1 ml sample of **AQUAEASE® PL 200** and transfer it into the test kit bottle.
3. Add 5-10 drops Methyl Orange Indicator.
4. Add N-94 solution drop wise while mixing until the solution turns from yellow to reddish - orange .
5. Record the drops N-94 used.

$$\text{CONCENTRATION (\% VOL)} = \text{DROPS N-94 SOLUTION} \times 0.625$$

### TITRATION PROCEDURE

1. Pipette a 10 ml sample of cleaner solution into a 250 ml Erlenmeyer flask and dilute to 100 mls with water.
2. Add 5-10 drops of phenolphthalein indicator.
3. Titrate with 0.5 N hydrochloric acid until the solution turns from pink to colorless.
4. Record mls 0.5 N hydrochloric acid used.

$$\text{CONCENTRATION (\% VOL)} = 0.5 \text{ N HCL} \times 1.27$$

## WASTE DISPOSAL

Discharge to a disposal system. In order to be completely informed on the latest regulations for your area, please contact the local authorities.

## CAUTION

**AQUAEASE® PL 200** is an alkaline product and should be handled accordingly. Avoid skin and eye contact. Wear protective clothing, goggles and gloves. Flush exposed areas immediately with clean cold water. Contact a doctor promptly in case of injury.

## 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.