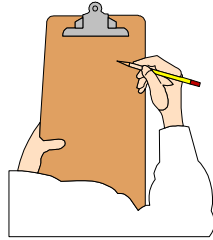


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# Howard Supply Company, Inc.



## **TECHNICAL BULLETIN #3950 LIQUID ELECTRO CLEANER**

THIS IS AN EXCELLENT CONCENTRATED CLEANER FOR FERROUS METALS. UNLIKE POWDERED CLEANERS, THIS PRODUCT CAN BE ADDED WHILE TANK IS FILLING, SAVING TIME CONSIDERABLY. THE EASE OF HANDLING AND SAFETY FEATURE OF LIQUIDS, AS OPPOSED TO POWDERS, MAKE THIS PRODUCT POPULAR AMONG MANY ELECTROPLATERS.

#3950 CAN BE ADDED SLOWLY TO A HOT TANK, BUT SHOULD NOT BE ADDED IN ONE SPOT WHEN POURING. WHEN MAKING A NEW SOLUTION, USE #3950 **TEN TO FIFTEEN PERCENT BY VOLUME**. MIX SOLUTION THOROUGHLY. TITRATE TO DETERMINE WHEN TO ADD.

### **TITRATION:**

1. TAKE 10 ML SAMPLE OF #3950 (IN SOLUTION).
2. ADD FIVE DROPS PHENOLTHALIN TO SAMPLE.
3. ADD 1.0 NORMAL HCL TO SOLUTION, COUNTING # ML'S IT TAKES TO TURN SAMPLE REDDISH-PINK.
4. # ML'S HCL X 1.03 (FACTOR) EQUALS OUNCES PER GALLON.

PRODUCT IS PACKAGED IN EITHER 55 GALLON STEEL OR NON-RETURNABLE PLASTIC DRUMS, 275 GALLON RETURNABLE PLASTIC TOTES, OR SHIPPED BY TANK TRUCK, IF SUITABLE STORAGE TANK IS PROVIDED.

SAFETY PROTECTIVE EQUIPMENT SHOULD BE WORN WHEN HANDLING THIS PRODUCT, AS USED WHEN HANDLING ANY CORROSIVE PRODUCT.