



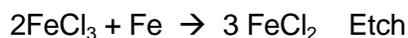
Better Chemistry. **Better Business.**

Halltronic R 629

Product Code: 2707017
Revised Date: 10/23/2007

Halltronic R 629 Sodium Chlorate Usage Data For Ferric Chloride

CHEMICAL REACTIONS



Therefore: 1 mole of iron etched requires $\frac{1}{2}$ mole of NaClO_3 and 3 moles of HCl for regeneration

1 mole of Fe = 55.847 grams

1 mole of NaClO_3 = 106.44 grams

1 mole HCl = 36.46 grams

1 pound of Iron = 454 grams = 8.13 moles and requires 4.06 moles (= 432.1 grams = 0.95 lbs.) NaClO_3 and 24.39 moles (= 889.3 grams = 1.96lbs.) HCl for regeneration.

Halltronic R 629 solution contains 629 grams/liter NaClO_3 or 5.25 lbs./gallon

Industrial grade HCl (Muriatic Acid) is 30 % HCl and contains 344.7 gm/1HCl or 2.87 lbs/gal.

Therefore: 1 pound of iron etched requires -

0.18 gallons of **Halltronic R 629**

and

0.68 gallons of Muriatic acid (30% HCl) for regeneration

The numbers given above are for an ideal reaction with 100% efficiency. Actual usage will probably be 10% to 20% higher depending on temperature, type of alloy, etc.



Product Bulletin

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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.