1. $79.85gFe_2O_3 \times \frac{60}{100} = 47.91g \rightarrow 47.91gFe_2O_3 \times \frac{1\ mol}{159.7gFe_2O_3} \times \frac{6mol\ HCl}{1molFe_2O_3} = 1.8$

2. $25.2\ lit\ SO_3 \times \frac{1molSO_3}{22.4lit} \times \frac{1molAl(so4)3}{3molSO_3} \times \frac{342.02g}{1molAl(SO_4)_3} = 128.2575g \rightarrow \frac{128.2575}{171.01} \times 100 = 75\%$