3.63 $0.500_g$ $0.702_g$ = $0.855_g$ $0.346_g$

(A) $Al(OH)_3 + 3HCl \longrightarrow AlCl_3 + 3H_2O$

(B) $0.500_g\ Al(OH)_3 \dfrac{1\text{mol } Al(OH)_3}{78_g\ Al(OH)_3} \left[\dfrac{3\text{mole } HCl}{1\text{mole } Al(OH)_3}\right] \dfrac{36.5_g}{1\text{mole } HCl} = 0.702_g\ HCl$

(C) $\left[\dfrac{1\text{mole } AlCl_3}{1\text{mole } Al(OH)_3}\right] \dfrac{133.34_g}{1\text{mole } AlCl_3} = 0.855_g\ AlCl_3$

(E) $\left[\dfrac{3\text{mole } H_2O}{1\text{mole } Al(OH)_3}\right] \dfrac{18_g}{1\text{mole } H_2O} = 0.346_g\ H_2O$

$0.500_g\ Al(OH)_3$

$0.702_g\ HCl$

Reactants = 1.202

$0.855_g$

$0.346_g$

Products = 1.201

$1.202_g \cong 1.201_g$

Mass is Conserved