Aluminum → Alum

$$Al_2(SO_4)_3 + K_2SO_4 + 24\,H_2O \rightarrow 2\,KAl(SO_4)_2 \cdot 12\,H_2O$$

2 moles Al atoms

2 moles of Al atoms

H_2O

For every 1 mol Al → 1 mol "Alum"

Theoretical Yield

14.8 g of product (Alum) ~~0.985g Al foil~~

$$0.985\,g\ Al \times \frac{mol}{26.98\,g} = 0.037\,mol\ Al$$

I can make (in theory) 0.037 mol Alum

Alum molar mass = 474.37 g/mol

$$0.037\,mol\ Alum \times \frac{474.37\,g}{mol} = 17.55\,g$$ Theoretical Yield

$$\%\ Yield = \frac{14.8\,g\ (Actual)}{17.55\,g\ (Theor.)} \times 100\% = 84\%$$