$$6NaOH + Al_2O_3 + 12HF \rightarrow 2Na_3[AlF_6] + 9H_2O$$

$$\nu_{NaOH} = \frac{m_{NaOH}}{M_{NaOH}} = \frac{57.4}{40} = 1.435 \; kmol$$

$$\nu_{Al_2O_3} = \frac{m_{Al_2O_3}}{M_{Al_2O_3}} = \frac{11.8}{102} = 0.115 \; kmol$$

$$\nu_{HF} = \frac{m_{HF}}{M_{HF}} = \frac{57.4}{20} = 2.87 \; kmol$$

$$\nu_{Na_3[AlF_6]} = 2\nu_{Al_2O_3} = 0.230 \; kmol$$

$$m_{Na_3[AlF_6]} = M_{Na_3[AlF_6]} * \nu_{Na_3[AlF_6]} = 0.23 kmol * 214 \frac{kg}{kmol} = 49.22 kg$$