Task:

How many grams of NH_3 are needed to react with 53.3 g of K_2PtCl_4?

Answer:

$K_2PtCl_4 + NH_3 = 2\ KCl + Pt(NH_3)Cl_2$

$v = \dfrac{m}{M}$

where m-mass, grams;

M-molar mass, gram/mol.

$M(K_2PtCl_4) = 415\,g/mol$ $\qquad\qquad$ $M(NH_3) = 17\,g/mol$

$v(K_2PtCl_4) = \dfrac{53,3}{415} = 0,128$ moles

$v(K_2PtCl_4) = v(NH_3) = 0,128$ moles

$m\,(NH_3) = v(NH_3) \cdot M(NH_3)$

$m\,(NH_3) = 0.128 \cdot 17 = 2,18\ g$