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Step 1. Write the balanced chemical equation.
$$SiCl_4 + 2\,Mg \rightarrow Si + 2\,MgCl_2$$
Step 2. Determine the moles of $SiCl_4$.
$$n_{SiCl_4} = \frac{100\ g}{165.8\ g/mol} = 0.603\ moles$$
Step 3. Based on the mole ratio, determine the mass of Mg. We need two moles of Mg for each Mole of $SiCl_4$.

$$m_{Mg} = (1.26\ mol)\left(24.3\ \frac{gm}{mol}\right) = 30.6\ gm$$
The minimum mass of Mg is 30.6 grams.