

Stoichiometry Problems

1. For the reaction: $6 \text{Li}(s) + \text{N}_2(g) \rightarrow 2 \text{Li}_3\text{N}(s)$

Determine:

- the mass of N_2 needed to react with 0.536 moles of Li.
- the number of moles of Li required to make 46.4 g of Li_3N .
- the mass in grams of Li_3N produced from 3.65 g Li.
- the number of moles of lithium needed to react with 7.00 grams of N_2 .

2. For the reaction: $\text{SnO}_2(s) + 2 \text{H}_2(g) \rightarrow \text{Sn}(s) + 2 \text{H}_2\text{O}(l)$

Determine:

- the mass of tin produced from 0.211 moles of hydrogen gas.
- the number of moles of H_2O produced from 339 grams of SnO_2 .
- the mass of SnO_2 required to produce 39.4 grams of tin.
- the number of atoms of tin produced in the reaction of 3.00 grams of H_2 .
- the mass of SnO_2 required to produce 1.20×10^{21} molecules of water.