

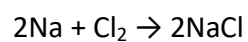
Answer on Question #79729, Chemistry / General Chemistry

Question:

How many liters of chlorine gas can react with 52.5 grams of sodium metal at standard temperature and pressure? Show all of the work used to find your answer. $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$ (5.04)

Solution:

Equation:



Amount of sodium: $52.5 / 22.99 = 2.284 \text{ mol}$

Amount of chlorine: $2.284 / 2 = 1.142 \text{ mol}$

Volume of chlorine: $1.142 \cdot 22.4 = 25.58 \text{ l}$

Answer:

25.58 liters