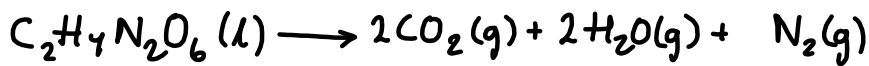


2.8

$$n(\text{kaasut}) = 1,56 \text{ mol}$$

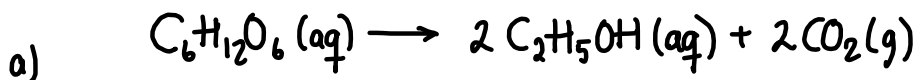
$$\frac{n(\text{C}_2\text{H}_4\text{N}_2\text{O}_6)}{n(\text{kaasut})} = \frac{1}{2+2+1} = \frac{1}{5}$$

$$n(\text{C}_2\text{H}_4\text{N}_2\text{O}_6) = \frac{1}{5} \cdot n(\text{kaasut}) = 0,312 \text{ mol}$$

$$m(\text{C}_2\text{H}_4\text{N}_2\text{O}_6) = n \cdot M = \dots$$

$$\frac{n(\text{H}_2\text{O})}{n(\text{kaasut})} = \frac{2}{5} \rightarrow n(\text{H}_2\text{O}) = \frac{2}{5} n(\text{kaasut}) = 0,624 \text{ mol}$$

$$m(\text{H}_2\text{O}) = n \cdot M = \dots$$

2.17

$$m(\text{C}_6\text{H}_{12}\text{O}_6) = 2,0 \text{ kg} \cdot 0,85 = 1700 \text{ g} \rightarrow n(\text{C}_6\text{H}_{12}\text{O}_6) = \frac{m}{M} = 9,4363 \text{ mol}$$

$$n(\text{C}_2\text{H}_5\text{OH}) = 2 \cdot n(\text{C}_6\text{H}_{12}\text{O}_6) = 18,873 \text{ mol} \rightarrow m(\text{C}_2\text{H}_5\text{OH}) = n \cdot M = 869,4 \text{ g}$$

$$\hookrightarrow n(\text{CO}_2) \approx 0,87 \text{ kg}$$

$$\text{b) } V_{\text{kok}} = 11,1 \text{ l}$$

$$\rho(\text{etanoli}) = 0,79 \text{ kg/l} \rightarrow V(\text{etanoli}) = \frac{m}{\rho} = \frac{0,8694 \text{ kg}}{0,79 \text{ kg/l}} = 1,101 \text{ l}$$

$$\frac{V(\text{etanoli})}{V_{\text{kok}}} = \frac{1,101 \text{ l}}{11,1 \text{ l}} = 0,09915 \approx 9,9 \text{ til\%}$$

$$\text{c) } \rho(\text{CO}_2) = 1,9 \text{ kg/m}^3 \rightarrow V(\text{CO}_2) = \frac{m}{\rho}$$

$$n(\text{CO}_2) = 18,873 \text{ mol (a)}$$

$$\hookrightarrow m(\text{CO}_2) = n \cdot M = 830,6 \text{ g}$$

$$V(\text{CO}_2) = \frac{m}{\rho} = \frac{0,8306 \text{ kg}}{1,9 \text{ kg/m}^3} = 0,4372 \text{ m}^3 \approx 0,44 \text{ m}^3$$

