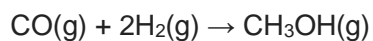


Answer on Question #82349, Chemistry / General Chemistry

1. How much methanol (CH₃OH, in grams) can be formed from 42.2 kg of hydrogen? Assume excess CO.



2.

Solution:

$$n = \frac{m}{M}$$

$$n(\text{H}_2) = \frac{42200 \text{ g}}{2 \text{ g/mol}} = 21100 \text{ mol.}$$

$$n(\text{CH}_3\text{OH}) = \frac{1}{2} n(\text{H}_2) = 10550 \text{ mol}$$

$$m = n \times M$$

$$m(\text{CH}_3\text{OH}) = 10550 \text{ mol} \times 32 \text{ g/mol} = 337600 \text{ g.}$$

Answer: can be formed 337600g of methanol .

Answer provided by www.AssignmentExpert.com