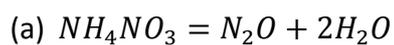


Dinitrogen monoxide (also called nitrogen oxide) is also called "laughing gas." It can be prepared by the thermal decomposition of ammonium nitrate. The other product is water. (a) Write a balanced equation for this reaction. (b) How many grams of dinitrogen monoxide are formed if .46 moles of ammonium nitrate is used in the reaction?

Solution:



$$\text{Mr}(\text{N}_2\text{O}) = 14 \times 2 + 16 = 44$$

$$(b) m(\text{N}_2\text{O}) (\text{g}) = 0.46 \times 44 = 20.24$$

Answer: 20.24 g