

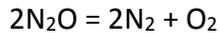
## Answer on Question #58476 - Chemistry – General Chemistry

### Question

Dinitrogen monoxide gas decomposes to form nitrogen gas and oxygen gas. How many grams of oxygen are formed when 10.0 g of dinitrogen monoxide decomposes?

### Answer:

Reaction equation is:



The number of moles of dinitrogen monoxide is:

$$n = \frac{m}{M} = \frac{10.0}{44.0} = 0.227 \text{ mol}$$

The number of moles of oxygen formed is  $0.227/2 = 0.1135$  mol. Then the mass oxygen formed is:

$$m(\text{O}_2) = nM = 0.1135 * 32.0 = 3.632 \text{ g}$$

**Answer:** 3.632 g