## Question \#84765, Chemistry / General Chemistry

Assume you have 2.75 moles of c6h5no2. How many grams of C 2 H 4 O could you make?

## Solution

$\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{NO}_{2} \rightarrow 3 \mathrm{C}_{2} \mathrm{H}_{4} \mathrm{O}$
According to the general scheme of the reaction 1 mole of $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{NO}_{2}$ gives 3 moles of $\mathrm{C}_{2} \mathrm{H}_{4} \mathrm{O}$.
So 2.75 moles of $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{NO}_{2}$ give 8.25 moles of $\mathrm{C}_{2} \mathrm{H}_{4} \mathrm{O}$.
Find the mass of $\mathrm{C}_{2} \mathrm{H}_{4} \mathrm{O}$ :
$\mathrm{m}=\mathrm{M} \times \mathrm{v}=44.05 \times 8.25=\mathbf{3 6 3 . 4} \mathbf{( g )}$.

## Answer

363.4 g of $\mathrm{C}_{2} \mathrm{H}_{4} \mathrm{O}$ could be made from 2.75 moles of $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{NO}_{2}$.

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