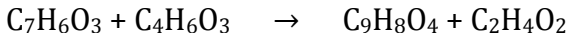


Aspirin ($\text{C}_9\text{H}_8\text{O}_4$), can be made in the reaction below.



(Formula masses: $\text{C}_7\text{H}_6\text{O}_3 = 138$ $\text{C}_4\text{H}_6\text{O}_3 = 102$
 $\text{C}_9\text{H}_8\text{O}_4 = 180$ $\text{C}_2\text{H}_4\text{O}_2 = 60$)

Use the equation below to calculate the atom economy for the production of aspirin.

Atom economy =

$$\frac{\text{mass of required product}}{\text{total mass of products}} \times 100\%$$