

Answer on Question #68934-Physics-Other

9.52 weight% of nitrogen is in the aspartame(a synthetic sweet).two nitrogen atom is in the each molecule. What is the molecular weight of aspartame?

Solution

The molecular weight of nitrogen in the aspartame is

$$2M_N = 2(14.0067) = 28.0134 \frac{g}{mol}$$

It is 9.52% of the molecular weight of aspartame. Thus,

$$M_{\text{aspartame}} = \frac{28.0134}{0.0952} = 294 \frac{g}{mol}$$

Answer: 294 $\frac{g}{mol}$.

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