Answer on question #62530, Chemistry / General chemistry

What is the mass of 8.70 moles of magnesium chloride, $MgCl_2$?

Solution:

The mol values correspond to ratio of mass to molar mass of magnesium chloride:

$$n(MgCl_2) = \frac{m(MgCl_2)}{M(MgCl_2)}$$

From this ratio mass correspond to:

$$m(MgCl_2) = n(MgCl_2) \cdot M(MgCl_2)$$

Molar mass of $MgCl_2$:

$$M(MgCl_2) = 95.21\ g/mol$$

Mass of magnesium chloride is:

$$m(MgCl_2) = 8.70\ moles\ \cdot 95.21 \frac{g}{mol} = 828.33\ g$$

Answer: mass of magnesium chloride is 828.33 g.