

Answer on Question#71690 – Chemistry – General chemistry

Question:

Calculate the heat required to melt 7.87 g of benzene at its normal melting point.

Heat of fusion (benzene) = 9.92 kJ/mol

Heat = ___ kJ

Solution:

$$n(\text{benzene}) = \frac{m(\text{benzene})}{M(\text{benzene})} = \frac{7.87 \text{ g}}{78.11 \text{ g/mol}} = 0.101 \text{ mol}$$

$$Q = \Delta H_f(\text{benzene}) \times n(\text{benzene}) = 9.92 \frac{\text{kJ}}{\text{mol}} \times 0.101 \text{ mol} = 1.00 \text{ kJ}$$

Answer:

1.0 kJ.

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