Molar Heat of Fusion of Ice

Experiment: <u>The Molar Heat of Fusion of Ice</u> (ΔH_{Fusion})

Purpose: To determine the amount of heat energy needed to melt one mole of ice using calorimetry.

Hypothesis:

/3

Assuming $- Q_{water} = + Q_{ice}$, the heat lost by the water as it cools can by calculated by *(formula)*.

The mass of the ice can be determined by *(procedure)*.

The molar heat of fusion can be calulated by *(formula)* and will be approximately the accepted value of +6.01 kJ/mol.

Materials: (list with bullet points)

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Procedure: (number the steps)

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(3 trials required)

Diagram: *(labelled)*

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Data: *(in a table, include all measurements and uncertainty values)*

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Analysis: *(All calculations using significant figures, experimental error (E) and % error using the accepted value of +6.01 kJ/mol)*

/5

Conclusion: The molar heat of fusion was determined to be   . Calorimetry ***is/is not*** an effective method because the source of error was *less/greater* than 10%.

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Error Analysis: *(one sourse of experimental error – how it effected the calculated value of ΔH_{fusion} – recommendation on how to reduce or elliminate this error)*

/1