

## Example Purpose and Conclusion AP Chemistry

**PURPOSE:** **The purpose of this experiment is to determine** the molar mass of a volatile liquid (What) by vaporizing the liquid into a gas and measuring its mass at known conditions of temperature, pressure and volume.

**CONCLUSION:** The molar mass of a volatile liquid was determined (WHAT) by vaporizing the liquid into a gas and measuring its mass at known conditions of temperature, pressure and volume (HOW) and calculated to be 53.02g/mol (RESULT). This represents an error of -8.73% compared to the actual molar mass of acetone. One source of error is that the vapor may have been heated for too long causing too many vapor particles to leave the flask resulting in a lower mass of vapor hence a lower molar mass using the formula  $MM = \frac{g \text{ vapor}}{\text{moles vapor}}$ .

A few things to notice:

1. No pronouns were used
2. WHAT, HOW and RESULTS are all in one sentence
3. The RESULTS answers the WHAT.
4. The identity of the unknown was stated
5. The result was TOO LOW. The source of error should give a plausible explanation as to why it

was TOO LOW. Since the equation was  $Molar \text{ mass} = \frac{grams \text{ vapor}}{moles \text{ vapor}}$  you need to consider

what may have caused the mass of the vapor to be too low (heating the vapor too long allowing most of the vapor to escape, taking too long to weighing the condensed vapor allowing more to escape) causing the calculated MM to be too low. Since the number of moles is calculated from experimental values of V, T and P these are also sources of possible error. For example: the flask not being completely submerged caused some of the particles to be cooler than the 100°C. This would cause the vapor mass to be greater causing the MM to be too high.