

The conclusion is summarized in a paragraph. It should be written in the past tense without using personal pronouns. Use lab data collected to explain and support the conclusion.

Include key conclusion from lab

Restate the purpose

VI. Conclusion

The purpose of this lab was to identify an unknown pure substance using physical properties. Based on the experimental data, the identity of unknown K was determined to be ethyl acetate. The experimental boiling temperature of unknown K was measured as 79 °C and the normal boiling point is 77 °C. Although this boiling point was also close to ethanol, the experimental density of unknown K was calculated as 0.89 g/mL. The accepted density of ethyl acetate is 0.90 g/mL and the accepted density of ethanol is 0.79 g/mL. The density of unknown K is closer to the density of ethyl acetate. Unknown K and both ethanol and ethyl acetate freeze below 0 °C and are very soluble in alcohol, so freezing temperature and alcohol solubility data did not help distinguish the identity of unknown K.

Explain agreement of results

Experimental data which was not supported by the identified liquid properties was the solubility in water. Unknown K was observed to be very soluble in water while ethyl acetate is slightly soluble in water and ethanol is very soluble in water. This data was considered less reliable based on the small sample sizes used during the solubility test and cross contamination that occurred in the pipette. Also, the boiling and density data was quantitative and less susceptible to bias.

Explain variation of results

A potential improvement to the lab procedure which was identified was to use a single pipette for each sample bottle. This change was identified to improve the future results by eliminating cross contamination during the solubility testing. Additionally, the density and boiling temperature tests could be repeated multiple times to increase the accuracy of the quantitative data in the experiment.

Suggest improvements to increase the ACCURACY of the experiment

Portion of rubric showing how you will be assessed for this section



VI. Conclusion	0	0.5	1	1.5	2	2.5	3	3.5	4
<input type="checkbox"/>	Purpose of lab is restated and explains if lab purpose was met								
<input type="checkbox"/>	Explains key conclusions from experiment								
<input type="checkbox"/>	Explain theories or laws demonstrated in the experiment								
<input type="checkbox"/>	Explains agreement or variation from expected results								
<input type="checkbox"/>	Lab data and any graphs are used to explain results								
<input type="checkbox"/>	Percent error (if applicable) is used to explain results								
<input type="checkbox"/>	Improvements to lab or additional areas of study are suggested								
<input type="checkbox"/>	Complete sentences, written in past tense, and no personal pronouns								