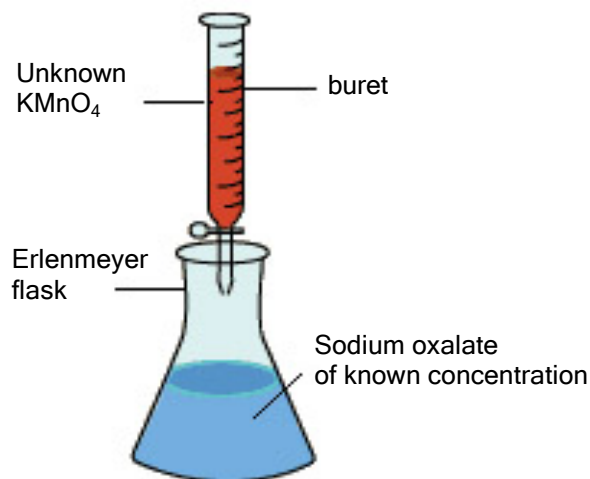


Guide for Experiment 4 - Volumetric Analysis: Potassium Permanganate Titration

Goal: Determine the concentration of unknown KMnO_4 using sodium oxalate of known concentration.



Sodium oxalate of known concentration

What concentration do I want?

<http://www.chemcollective.org/chem/ubc/exp04/ubcExp4Tut.php>

How do I make the solution?

<http://www.chem.ubc.ca/courseware/121/tutorials/exp4A/stdsol/>

<http://www.chem.ubc.ca/courseware/121/tutorials/exp4A/weigh/>

What glassware do I use?

<http://www.chem.ubc.ca/courseware/121/tutorials/exp4A/sigfig/>

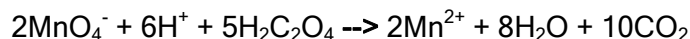
Performing the Titration - Add titrant until solution turns constant pale pink colour

Why does it turn pink?

Titration of KMnO_4 (purple) into the oxalate solution (colourless), produces colourless Mn^{2+} until the end point. At the end point, the oxalate solution will be exhausted and the purple solution colour will be permanent.

How do I interpret the results?

When performing volumetric analysis calculations, consider how you will calculate the amount (number of moles) of KMnO_4 in solution. This experiment uses a known amount of sodium oxalate. From this amount, consider how you can determine the concentration of KMnO_4 . Remember to consider the stoichiometry of this reaction in your calculations.



Practice this reaction.

<http://www.chemcollective.org/chem/ubc/exp04/ubcExp4Tut.php> (Click on the "Virtual Lab" button)

Need a refresher in basic stoichiometry concepts?

Online Stoichiometry Tutorials

<http://www.chemcollective.org/tutorials.php> Stoichiometry is a set of tools chemists use to count molecules and determine the amounts of substances consumed and produced by reactions. A brief review is offered.