



Experiment 23: Haloalkanes

Explore the properties and reactivities of haloalkanes. Prepare a haloalkene and apply the techniques of separation, distillation and boiling point determination.

Preparations

Read: Experiment 23C - Preparation of t-Pentyl Chloride (page 205)
Techniques 12, 13 and 14

Reactions and properties of Haloalkanes in your lecture text.

Do: Prepare your lab notebook:

- State experiment objectives (for each part assigned)
- List materials used w/ properties (solvents used in previous experiments do not need to be repeated)
- Make a procedures bullet list (for each part assigned)

Intended Learning Outcomes

- * Give examples of common uses of haloalkanes.
- * Know what properties of haloalkanes make them useful in refrigeration, fire extinguishers, and aerosols.
- * Classify a haloalkane as primary, secondary, or tertiary.
- * Predict the relative melting point, boiling point, viscosity or hardness of a haloalkane relative to a hydrocarbon.
- * Explain why haloalkanes have similar water solubility to hydrocarbons.
- * Know what advantages haloalkanes have as an extraction solvent.
- * Provide the reaction conditions for converting an alcohol to an haloalkane.
- * Predict the product of a tertiary or secondary alcohol and a binary acid.
- * Identify the boiling point of substance by capillary condensation.

Report

Prepare a report for this experiment according to this experiment's report description for the parts we accomplished. Include the questions with answers for this experiment, except any your instructor tells you to omit.