

Department of Chemistry
University of Missouri-St. Louis

Course Description

Chemistry 263 is the first semester in the U.M.-St. Louis Organic Chemistry Laboratory sequence. The formal prerequisite for this course is Structural Organic Chemistry, Chemistry 261 (or an equivalent lecture course).

This course is designed to provide an introduction to the basic techniques and procedures of Organic Chemistry, thus furthering your understanding of the fundamentals of this science. It is assumed that you are acquainted with general techniques employed in the laboratory, such as weighing, measuring volumes, preparing solutions, determining temperatures, etc. You should also be familiar with the basics of Organic Chemistry including nomenclature, structural theory and the reactions of common functional groups. Familiarity with the spectroscopic properties of organic compounds would also be helpful.

Disposal of Wastes

Solvent wastes Solvent wastes are not to be poured down the drain. Instead receptacles will be available in the laboratory to contain the waste solvents that you generate. A carboy will be available for your wash acetone as well as receptacles for halogenated and non-halogenated solvents. Aqueous solutions that do not contain heavy metals can probably be discarded in the drain. Additional information will be provided during the laboratory period. If you are in doubt, ask the instructor for assistance.

Solid wastes Most of the solid wastes you will generate during the semester are non-toxic and can be disposed of in the trash receptacles. Most of your products will be collected. Heavy metal precipitates and similar toxic solids will be collected in special receptacles that will be appropriately labeled. Additional information will be provided during the laboratory period. If you are in doubt, ask the instructor for assistance.

Broken glass Special receptacles are available for broken glass (large cardboard boxes). DO NOT put anything into these glass receptacles except glass. There are different trash receptacles for paper, old labels, etc.

Cleaning Glassware

Washing glassware When time allows, wash your dirty glassware with soap and water using the brushes in your kit and the soap at your sink. If a residue persists, try to dissolve it with minimal amount of acetone, usually 5 mL or less. If that does not work, ask your instructor for suggestions.

Drying Wet glassware The oven in the rear of the lab is set to approx. 80-100°C. Wet glassware will usually dry in that oven in 15-20 min. CAUTION: hot glassware can burn your fingers--use the glove(s) provided. In those cases where you need the glassware sooner, you can "rinse out" the residual water by adding approx. 5 mL of acetone, swirling to mix the water with the acetone, draining the wash acetone, then placing the glassware in the oven (5 min) or allowing it to drain dry at your desk. DO NOT blow air into the glassware.

IMPORTANT: Keep acetone use to a minimum.