Chem 210 Exp. 10.1 Gas Chromatography

Chemical Name	Amount / Quantity	Location
2-methyl-2-butanol or tert-amyl alcohol	20 mL	Flammable Fridge (first room)
6M Sulfuric acid	1000 mL	Flammable Cabinet (next to fridge)
3M Sodium Hydroxide	7.2 mL	Inorganic liquids (shelves)
Calcium Chloride pellets, anhydrous	50 g	Inorganic solids (shelves)
Ethanol / Ethyl Alcohol	100 mL	Flammable cabinet (middle room)
Acetone	100 mL	Flammable cabinet (middle room)
Sodium Carbonate, solid	Determined by class	Inorganic solids (shelves)

Other Items	Amount / Quantity	Location
Ice	Determined by class	Next to fridge
Boiling chips	1 bottle	Ochem bookshelf #1
Glass beads	1 bottle	Ochem bookshelf #1
Thermometers	Determined by class	In lab room already
Syringes	0.05-0.5 mL capacity (50-500 ul)	Ochem bookshelves #1 and #2
Vials	5 mL capacity	In stockroom prep drawers

Exp. 10.2 Gas Chromatography

Other Items	Amount/Quantity	Location
Syringes	0.05-0.5 mL capacity (50-500 ul)	Ochem bookshelves #1 and #2

Packing description

- GC ov-101 column, 10%
- 2 ul sample

Solution Preparation

6M Sulfuric acid

$$\frac{6M}{18.4M}\ x\ 1000\ ml = 326\ ml\ H_2SO_4 + 674\ ml\ H_2O$$

3M Sodium Hydroxide

$$40\ g\ NaOH\ (molar\ mass)\ x\ 3M\ x\ 1\ liter = 120\ g\ NaOH + 880\ ml\ H_2O$$

Important! Add acid and base to water. Place volumetric flask / beaker in an ice bath while making these solutions due to exothermic reactions. Fill the volumetric flask almost half way with your water before slowly adding the acid or base. Fill the volumetric flask to the meniscus with the remaining water.