Polymerization of a Hydrocarbon (The Sucker Lab)

Summary

This "tongue in cheek" activity is a great way to end the school year. Students decode heavy chemistry words to make a sucker.

Time Frame

1 class periods of 90 minutes each

Group Size

Small Groups

Materials

- student sheet
  (attached)
  per group-hide or remove the labels from any labeled container
  50 mL saturated solution of D-glucose (C6H12O6) -- Light Karo syrup
  2.8 moles H2O
  0.51 moles sucrose (C12H22O11) -- table sugar
  a drop of 2-hydroxy-1,2,3-propanetricarboxylic acid -- Citric acid
  esterified fatty acid -- Pam spray
  80/20 mixture of methane and ethane -- gas jet fuel
  Flavorings: (extracts from)
  sarsaparilla and sassafras root -- root beer
  Cocos nucifera -- coconut
  Maclura pomifera -- orange
  Citrus limon -- lemon
  Lamiaceae -- mint
  Aluminium foil
  organic dye (Red #3, #40, erythrusein;
  Yellow #5, #6, partrazien;
  Green #1, guinea green) -- food coloring
  Glassware must be dedicated to this lab and kept food quality clean
  sodium-aluminum borosilicate container
  pyrex beaker
  wooden splint
  thermometer
  stir rods

Background for Teachers

Safety issues:

Safety glasses and hot glass handling equipment is required.

Instructional Procedures

The fun in this lab comes from making it sound harder than it is. Don't give it away early. Tell students they are making a polyhydroxyl hydrocarbon and that they need to follow the directions very carefully and ask if they don't understand something. Do not read the instructions with them.

Look at the ingredients for the flavorings and write them on the board.
Supervise the experiment carefully; there is a small risk when heating the liquid.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

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