

Deductive reasoning exercise: Solution Properties

Five grams of sucrose, ethanol, methanol, calcium chloride and aluminum chloride have been dissolved separately, each in 200.0 mL of water. The solutions were randomly placed in the following containers:

250 mL beaker
250 mL Erlenmeyer flask
600 mL beaker
500 mL Erlenmeyer flask
1 L Florence flask

The containers were labeled A-E randomly.

It is your task to determine each container's label and contents based upon the following clues:

1. The solution in the largest container has the highest boiling point.
2. The sugar solution is in the largest beaker.
3. Erlenmeyer flasks hold volatile solutes.
4. Solution A is made with an ionic solid.
5. Solutions labeled with vowels are in beakers.
6. The compound with the lowest molar mass is in the smallest flask.
7. The solution with the lowest freezing point is C.
8. The solute container B is a common gasoline additive.