

Chem 130: Chemistry for Funeral Services
Problem Set 5: Due 2/28/06

Name: _____

Date:

Each question is worth one point. Show your work wherever calculations are required.

1. Explain the difference between a solvent and a solute. Give an example of each.
2. What is solubility? How does solubility relate to a saturated solution? Does dilute mean unsaturated? Why or why not.
3. How many grams of formaldehyde are dissolved in 100 ml of a solution with an index of 32? How many grams would be dissolved in 50 ml of the same solution?
4. How many grams of calcium chloride (CaCl_2) must be dissolved in 1 liter of solution to make the concentration 1M?
5. What is the difference between heterogeneous and homogeneous solutions? Give an example of each.

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6. What is meant by "like dissolves like"? Explain what is happening at the atomic level. How does this relate to polar and non-polar substances?

7. What is the difference between an isotonic, a hypotonic and a hypertonic solution? What do these terms have to do with embalming? Explain. (see p. 117)

8. Explain why the salt in the potato got wet over time. Use the concept of osmosis in your explanation.

9. What is osmotic pressure? (Be careful! Osmotic pressure is not osmosis!)

10. Give three important differences between colloidal mixtures and suspensions. Give a common example of each type of mixture.