

Chem 130: Chemistry for Funeral Services
Problem Set 8: Due 3/28/06

Name: _____

Date: _____

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

1. What is the characteristic functional group of aldehydes and ketones? How is a ketone different from an aldehyde? Use structural formulas in your answer.

2. Describe the reaction of formaldehyde with ammonia. What is urotropin? Why does formaldehyde demand increase when there is an advanced state of decomposition?

3. What happens to formaldehyde in basic solutions? Draw the structural equation. What is the name of this reaction? Why is it important to buffer formaldehyde solutions?

4. What is paraformaldehyde and how is it formed? How is paraformaldehyde formation minimized in embalming fluids?

5. Describe an aqueous solution of formaldehyde. What is the solubility limit for formaldehyde in water? What structure does formaldehyde typically have in water?

6. Draw the structure of a dialdehyde important in embalming. Why is it important in embalming?

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7. What is a common use for ketones in embalming fluids? Give one example of a molecule used in this way.
8. What is the characteristic functional group for a carboxylic acid? Describe how to name simple carboxylic acids. How are carboxylic acids important for embalming?
9. Give the general structure for and describe a common use of each of the following in the embalming process.

Type of molecule	Common Structure	Typical use in Embalming
Dicarboxylic acids		
Chelates		
Hydroxy Acids		

10. What is an ester? How are esters formed (the common reaction)? How are esters used in embalming? Give two examples of commonly encountered esters and give their structures (hint: see Table 17-4).