

General Instructional Objectives

Chapter 17: Amines and Amides

- 17.1 Bonding Characteristics of Nitrogen Atoms in Organic Compounds**
- 17.2 Structure and Classification of Amines**
- 17.3 Nomenclature for Amines**
- 17.4 Isomerism for Amines**
- 17.5 Physical Properties of Amines**
- 17.6 Basicity of Amines**
- 17.7 Amine Salts**
- 17.8 Preparation of Amines and Quaternary Ammonium Salts**
- 17.9 Heterocyclic Amines**
- 17.10 Selected Biochemically Important Amines**
- 17.11 Alkaloids**
- 17.12 Structure of and Classification of Amides**
- 17.13 Nomenclature for Amides**
- 17.14 Selected Amides and Their Uses**
- 17.15 Physical Properties of Amides**
- 17.16 Preparation of Amides**
- 17.17 Hydrolysis of Amides**
- 17.18 Polyamides and Polyurethanes**

Students should be able to:

1. Draw and name simple amines and amides.
2. Classify amines as primary, secondary, or tertiary.
3. Draw and discuss the structure of the amide bond.
4. Write equations showing the basicity and neutralization of amines.
5. Write equations for the preparation and hydrolysis of amides.
6. Know that amphetamines, barbiturates, analgesics, anesthetics, decongestants, and antibiotics are among the medically important amines and amides.
7. Recognize that many carcinogens are amines or amine derivatives.
8. Know the general structure of an amino acid.
9. Draw and discuss the structure of a peptide bond.