Chapter 3

Understanding Common Name Nomenclature Rules

Key Concepts

The common name of an organic molecule is generally based on its non-carbon group rather than on a parent hydrocarbon.

Nothing is classified as a functional group in common name nomenclature. All non-hydrocarbon groups such as alcohols, amines, halogens, and ethers are treated alike.

In addition, all carbon groups are treated as substituents to the non-carbon group.

Because common name nomenclature isn't based on a parent hydrocarbon, numbers can't be used to designate where various groups are attached to a carbon backbone. Instead, branched carbon substituents are given specific names based on characteristics of the branching as well as on the TOTAL number of carbons in the group.

The steps for naming a molecule using common name nomenclature rules are:

1. **IDENTIFY (in order)**
   non-hydrocarbon group hydrocarbon group(s)

2. **WRITE the name of each component in the following order:**
   hydrocarbon substituents in alphabetical order non-carbon group

3. **If there is more than one of any specific hydrocarbon group in the molecule, indicate HOW MANY there are by adding di, tri, tetra, penta, etc. (as appropriate) to the beginning of the name for each applicable group.**

What You Need to Learn, Understand, and Apply

1. **How to name applicable alkanes, alkyl halides, ethers, alcohols, amines, alkenes, and alkynes using the common name nomenclature method.**
2. **The skills needed to apply the material and avoid common errors.**