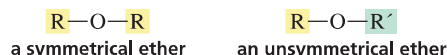


3.5 THE NOMENCLATURE OF ETHERS

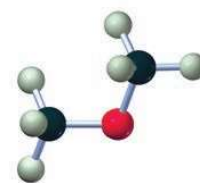
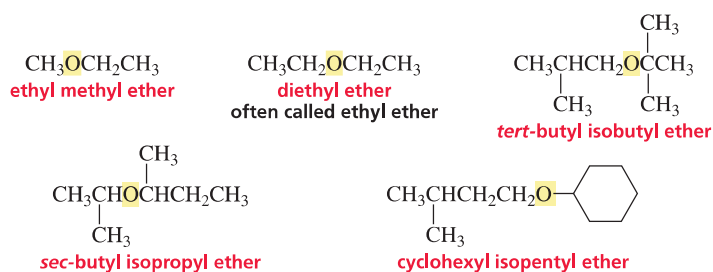
A compound with an oxygen attached to two alkyl groups is called an **ether**.

- In a **symmetrical ether**, the two alkyl groups are the same (R and R).
- In an **unsymmetrical ether**, the two alkyl groups are different (R and R').

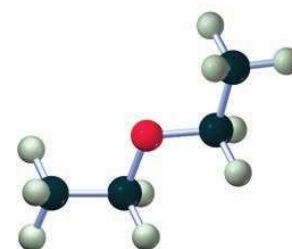


Common Names

The common name of an ether consists of the names of the two alkyl substituents (in alphabetical order), followed by the word "ether." The smallest ethers are almost always named by their common names.



dimethyl ether

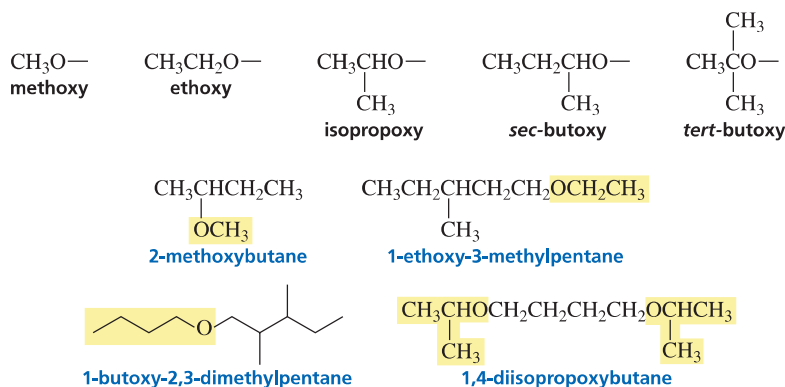


diethyl ether

Chemists sometimes neglect the prefix "di" when they name symmetrical ethers. Try not to do this.

Systematic Names

The IUPAC system names an ether as an alkane with an RO substituent. The substituents are named by replacing the "yl" ending in the name of the alkyl substituent with "oxy."



PROBLEM 22 ♦

a. What is each ether's systematic name?

- $\text{CH}_3\text{OCH}_2\text{CH}_3$
- $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{OCH}_3)\text{CH}_2\text{CH}_2\text{CH}_3$
- $\begin{array}{c} \text{CH}_3\text{CHOCH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_3 \\ | \quad | \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$
-
-

b. Do all of these ethers have common names?
 c. What are their common names?