

Ketones Encyclopedia Article

Ketones

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.



Contents

Ketones Encyclopedia Article.....	1
Contents.....	2
Ketones.....	3

Ketones

Ketones belong to a class of organic compounds known as carbonyls. They contain a **carbon** atom linked to an oxygen atom with a double bond (C=O). **Acetone** (dimethyl ketone) is a ketone commonly used in industrial applications. Other ketones include methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methyl amyl ketone (MAK), isophorone, and diacetone alcohol.

As solvents, ketones have the ability to dissolve other materials or substances, particularly polymers and adhesives. They are ingredients in lacquers, epoxies, polyurethane, nail polish remover, degreasers, and cleaning solvents. Ketones are also used in industry for the manufacture of **plastics** and composites and in pharmaceutical and photographic film manufacturing. Because they have high evaporation rates and dry quickly, they are sometimes employed in drying applications.

Some types of ketones used in industry, such as methyl isobutyl ketone and methyl ethyl ketone, are considered both hazardous air pollutants (HAP) and volatile organic compounds (VOC) by the EPA. As such, the **Clean Air Act** regulates their use.

In addition to these industrial sources, ketones are released into the **atmosphere** in **cigarette smoke** and car and truck exhaust. More "natural" environmental sources such as forest fires and volcanoes also emit ketones. Acetone, in particular is readily produced in the atmosphere during the oxidation of organic pollutants or natural emissions. Ketones (in the form of acetone, beta-hydroxybutyric **acid**, and acetoacetic acid) also occur in the human body as a byproduct of the **metabolism**, or break down, of fat.

Resources

Periodicals

Wood, Andrew. "Cleaner Ketone Oxidation." *Chemical Week* (Aug 1, 2001).

Other

U.S. National Library of Medicine. *Hazardous Substances Data Bank*. [cited May 2002]. <<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>>.

Organizations

American Chemical Society, 1155 Sixteenth St. NW, Washington, D.C. USA 20036
(202) 872-4600, Fax: (202) 872-4615, Toll Free: (800) 227-5558, Email: help@acs.org,
<<http://www.chemistry.org>> ;