

Methanol Encyclopedia Article

Methanol

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

Methanol Encyclopedia Article.....	1
Contents.....	2
Methanol.....	3

Methanol

Methanol, a clear, colorless liquid, belongs to the class of substances called *alcohols*. All alcohols contain a hydroxyl group (-OH) attached to a carbon atom. Methanol is the simplest compound in this group, with the formula CH_3OH . Besides being poisonous, methanol is also flammable, burning with a pale blue, transparent flame. Mixed with the right amount of air, methanol can explode. The volatile liquid has a mild but distinctive odor.

For centuries, methanol was called *wood alcohol*, because it was made by heating wood in a furnace or oven and condensing the resultant vapors. During Prohibition, many people became ill or died of methanol poisoning when they drank the liquid as a substitute for commercial liquor. The misleading name, wood alcohol, was dropped in favor of the modern name, methanol.

The compound was first isolated during the 1660s by Robert Boyle. Around 1860, Pierre Eugène Marcellin Berthelot first synthesized the compound. Today, methanol is produced by combining carbon monoxide and hydrogen.

Methanol, or methyl alcohol, is very different from ethyl alcohol (ethanol), the type found in alcoholic beverages. If one drinks even a small amount of methanol, it paralyzes the optic nerve, causing blindness. Drinking larger amounts can kill you, as methanol produces two toxic substances (formaldehyde and formic acid) when oxidized in the body. Even inhalation of methanol vapors or contact with the skin over a long time can be harmful.

Methanol is used to make formaldehyde, plastics, and other chemicals. It is also widely used as a solvent and antifreeze. Additionally, methanol is used as a fuel for portable stoves and soldering torches, as a softening agent in plastics and as a compound for extracting natural oils. Ethyl alcohol manufacturers add methanol to their non-beverage products to prevent people from drinking them. Scientists are investigating the use of methanol as an alternative fuel for cars and other vehicles. Automakers have already developed engines that run on pure methanol or a mixture of methanol and gasoline. However, when used as a fuel, methanol produces formaldehyde, a harmful pollutant. Also, methanol is more expensive than gasoline.