

# Lipids Encyclopedia Article

## Lipids

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

<a href="#">Lipids Encyclopedia Article.....</a>	<a href="#">1</a>
<a href="#">Contents.....</a>	<a href="#">2</a>
<a href="#">Lipids.....</a>	<a href="#">3</a>



# Lipids

Lipids are a group of **compounds** that are rich in carbon-hydrogen bonds and are generally insoluble in water. The main categories are glycerolipids, sterols, and waxes.

Glycerolipids have fatty acids attached to one or more of the three carbons of glycerol. If three fatty acids are attached, the molecule is triacylglycerol, which is a primary storage form of carbon and energy in plants. Triacylglycerol is concentrated in many seeds for use during germination, and so seeds are of commercial importance as sources of fats and oils for cooking and industry. Diacylglycerol (DAG), which has two fatty acids, plays a role in cell signaling. Glycerolipids without any attached charged groups are known as neutral lipids.

If a polar molecule is added as a headgroup to DAG, the complex becomes a polar glycerolipid. The most common are phospholipids, the primary lipid component of higher plant membranes outside the plastids. Phospholipids are named after the headgroup, so if choline is present along with phosphate, the lipid is phosphatidylcholine. Several other headgroups exist. Polar lipids without phosphate also are important membrane molecules; for example, digalactosyldiacylglycerol, with two sugars as a headgroup, is a major component of **chloroplast** membranes.

Sterols are complex ring structures that are also major components of membranes. Some, such as brassinosteroids, also serve hormonal functions.

Waxes are elongated and modified fatty acids. They are found on the surfaces of plants, are highly impervious to water, and play a protective role.

## See Also

Anatomy of Plants; Hormones; Oils, Plant-Derived.