

Citric Acid Encyclopedia Article

Citric Acid

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

Citric Acid Encyclopedia Article.....	1
Contents.....	2
Citric Acid.....	3

Citric Acid

Citric acid is an organic (carbon based) acid found in nearly all citrus fruits, particularly lemons, limes, and grapefruits. It is widely used as a flavoring agent, preservative, and cleaning agent. The COOH group is a carboxylic acid group, so citric acid is a tricarboxylic acid, possessing three of these groups.

Citric acid is produced commercially by **fermentation** of sugar by several species of mold. As a flavoring agent, it can help produce both a tartness [caused by the production of **hydrogen** ions (H^+)] and sweetness (the result of the manner in which citric acid molecules "fit" into "sweet" **receptors** on our tongues). Receptors are protein molecules that recognize specific other molecules.

Citric acid helps to provide the "fizz" in remedies such as Alka-Seltzer trademark. The fizz comes from the production of **carbon** dioxide gas that is created when **sodium** bicarbonate (baking soda) reacts with acids. The source of the acid in this case is citric acid, also helps to provide a more pleasant **taste**.

Citric acid is also used in the production of hair rinses and low **pH** (highly acidic) or slightly acidic shampoos and toothpaste. As a preservative, citric acid helps to bind (or sequester) metal ions that may get into food via machinery used in processing. Many **metals** ions speed up the degradation of fats. Citric acid prevents the metal ions from being involved in a reaction with fats in foods and allows other preservatives to function much more effectively. Citric acid is also an intermediate in metabolic processes in all mammalian cells. One of the most important of these metabolic pathways is called the citric acid cycle (it is also called the **Krebs cycle**, after the man who first determined the role of this series of reactions). Some variants of citric acid containing **fluorine** have been used as rodent poisons.