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About Malic Acid

History
Malic Acid is as old as fruit and vegetables. However, it wasn't isolated from apple juice until 1785 by Carl Wilhelm Scheele. Antoine Lavoisier in 1787 proposed the name acide malique which is derived from the Latin word for apple, m?lum, which is the principal flavor that is used in commercial food preparation today.

Essential Metabolism
Malic Acid is formed in metabolic cycles in the cells of plants and animals, including humans. For instance, in both the KREB and glyoxalate cycles it provides the cells with energy and carbon skeletons for the formation of amino acids. A relatively large amount of **Malic Acid** is produced and broken down in the human body every day. **Malic Acid** is the principal acid contained in apples and many other fruits and vegetables.

Malic Acid has:

- a clean, mellow, smooth, persistent sourness,
- flavor enhancement and blending abilities,
- a high solubility rate,
- lower hygroscopicity than Citric or Tartaric acids,
- a lower melting point than other acids for easier incorporation into moltenconfections
- good chelating properties with metal ions

It forms:

- economical acidulant blends with other acids,
- more soluble calcium salts than Citric acid, and
- effective buffering mixtures.

Malic Acid in food
Malic Acid contributes to the sourness of green apples. **Malic Acid** is present in grapes. It confers a tart taste to wine, although the amount decreases with increasing fruit ripeness. The process of malolactic fermentation converts **Malic Acid** to much milder lactic acid.

Malic Acid, when added to food products, is denoted by E number E296. **Malic Acid** is the source of extreme tartness in so-called "extreme candy", i.e., Mega Warheads or Sour Punch candies. It is also used with or in place of the less sour citric acid in sour sweets such as Jolly Ranchers, Sweet Tarts and Salt & Vinegar flavor potato chips. These sweets are sometimes labeled with a warning that excessive consumption can cause irritation of the mouth. **Malic Acid** aids the formulator, because it:

- intensifies the impact of many flavors in foods or beverages, often reducing the amount of flavor needed,
- blends distinct flavors resulting in a well-rounded flavor experience,
- improves aftertaste by extending the impact of some flavors,
- increases burst and aromaticity of some flavor notes in certain beverage applications,
- boosts savory flavors like cheese and hot peppers in snack food coatings, and
- deepens and broadens the flavor profile of many products, resulting in a richer, more natural flavor experience.