

MALIC ACID: an enhancer for citric acid formulations

Improved flavour profile and cost savings result when Bartek Malic Acid is used to complement Citric Acid in many different applications. Fruit flavours are especially enhanced in beverages, candies and fruit preparations.

FLAVOUR EFFECTS OF CITRIC / MALIC BLENDS

Malic Acid adds depth to flavour profiles when used in combination with Citric Acid. Malic Acid enhances and extends fruit flavours to the point that flavour levels can be reduced. In addition, flavour profiles are more blended and more naturally balanced when Malic Acid is present.

COST SAVINGS POSSIBLE WITH CITRIC / MALIC BLENDS

Malic Acid provides 10-25% more sourness than Citric Acid, depending on the pH — it is more sour relative to Citric Acid at lower pHs. Additive and synergistic effects between Citric and Malic Acids create additional cost savings. These depend on the concentrations of Citric and Malic Acid. Flavour and sweetener levels can also be reduced in some cases.

BEVERAGE FORMULATIONS

Malic Acid rounds out the refreshing sourness of Citric Acid in addition to lowering ingredient cost. It enhances flavour and also enhances the sweetness of long duration sweeteners such as aspartame — a reduction in aspartame level is possible when Malic Acid is present. Malic Acid works well with fruit flavours, especially citrus flavours. When reformulating beverages which contain only Citric Acid, start with 95/5 to 85/15 blends of Citric to Malic Acids.

CANDY FORMULATIONS

Citric / Malic blends used in candy formulations result in cost savings as well as enhanced fruit flavour and a more persistent sourness, depending on the level of Malic Acid used. Extremely sour candies use 1-2% Malic Acid, either alone or in combination with Citric Acid. When reformulating candies which contain only Citric Acid, start with a 60/40 blend of Citric to Malic Acid.

FRUIT PREPARATION FORMULATIONS

Malic Acid enhances fruit flavour when used in fruit preparations. This is critical when the fruit preparation is used in yogurt, frozen desserts, or baked goods. Use a 40/60 blend of Citric to Malic Acid to start.

Bartek Ingredients Inc. has manufactured high quality Malic and Fumaric Acids for the last 25 years in Ontario, Canada. Detailed, product-by-product recommendations are available through the Bartek Acidulant Audit.