

# THE NATURAL SOLUTION FOR CLEAN LABEL FOOD AND FLAVORS

BioAmber bio-based succinic acid and bio-based disodium succinate:

**CREATING VALUE WITH  
NATURAL INGREDIENTS  
FOR MULTI-FUNCTIONAL  
BENEFITS:**

- Flavor Enhancers
- Acidulants
- Shelf-life Extenders

**Available product grades:**

- BIO-SA™ succinic acid  
— Natural Flavor Grade
- Bio-based disodium succinate  
— Natural Flavor Grade
- BIO-SA™ succinic acid  
— Food Grade



  
**bioamber™**

BioAmber BIO-SA™ succinic acid and bio-based disodium succinate are **safe, food and flavor ingredients**, which can be used in a wide range of applications. Succinic acid is a naturally occurring dicarboxylic acid found in fruit and vegetables. BioAmber BIO-SA™ brand offers multiple benefits in food applications as a **flavoring enhancer** and also as an **acidulant** or **preservative**. It is also a **natural, non-toxic alternative** to petroleum-based additives and is generally recognized as safe (GRAS). BioAmber neutralizes and spray-dries bio-based succinic acid to a tight particle size distribution to produce bio-based disodium succinate, an important ingredient for complex seasoning agents. Bio-based disodium succinate has **good water solubility** and **high penetration** and, as a result, these effects are accelerated. It is an anhydrous powder with low particle size, making it **ideal for blending** in dry seasonings.

#### Food & Flavor applications:

##### BIO-SA™ SUCCINIC ACID

- Flavor Enhancer
- Salt Reducer
- pH Regulator
- Shelf-life Extender
- Animal Feed Additive

##### BIO-BASED DISODIUM SUCCINATE

- Flavor Enhancer
- Salt Reducer

#### Certifications / Claims:

- GRAS
- KOSHER
- HALAL
- Gluten Free
- Vegan
- BSE/TSE Free
- Allergen Free
- EU and US Natural Flavor
- USDA BioPreferred® designated product

#### Applications benefits:

##### Flavor enhancer

- Natural alternative to flavor enhancers such as monosodium glutamate (MSG), disodium inosinate and guanylate (I&G)
- Contributes to a salty, meaty flavor
- Imparts both Umami and Kokumi perceptions
- Enhances the succulence in fruit flavored products
- Intensifies the perception of both saltiness and sweetness

##### Salt reducer

- Intensifies consumer-desired salty and savory taste in reduced-sodium foods
- Provides more body, additional mouth feel
- Boosts flavors to linger longer than alternative flavor enhancers

##### Acidulant and buffering agent

- pKa: 4.2 and 5.6
- Reduces and controls pH in products
- Increases tartness and acidity of food without the undesirable strong acid taste

##### Shelf-Life Extender

- Natural antimicrobial properties
- Prevents the growth of many undesirable microorganisms including:
  - Gram-negative and gram-positive bacteria
  - Mold
  - Yeast

**LET'S BUILD  
A GREENER WORLD  
TOGETHER,  
ONE INGREDIENT AT A TIME!**



NORTH AMERICA :: +1.514.844.8000  
info@bio-amber.com

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[www.bio-amber.com](http://www.bio-amber.com)