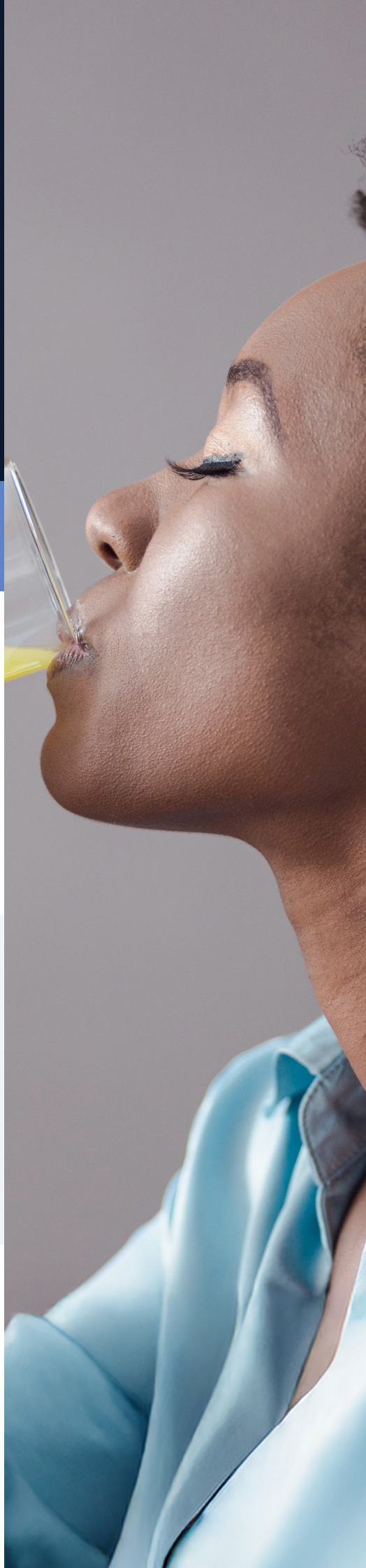
Jungbunzlauer

Masking and taste improvement

in beverages



Benefits at a glance

Off-taste masking

Jungbunzlauer ingredients effectively reduce off-notes in beverages by:

- **Minimising bitterness** from sweeteners, mineral salts, and other bitter substances
- **Decreasing** the **lingering sweetness** associated with artificial and natural sweeteners
- **Masking undesirable off-notes** and reducing the astringency of natural colours
- **Providing effective masking** for amino acids, as well as plant and animal proteins
- **Reducing the burning** sensation of alcohol in beverages

Flavour enhancement

Jungbunzlauer ingredients enhance the flavour **profile** of beverages by:

- **Improving the sweetness** profile through the addition of sweetness and body
- Delivering **fruity, refreshing, and well-rounded acidic flavours** that surpass those of phosphoric acid-based beverages
- **Balancing acidic taste** for a more refreshing overall flavour profile
- **Replacing bitter agents** with safe food additives that provide bitterness without physiological effects

Improvement of overall acceptance

Jungbunzlauer ingredients increase overall acceptance by:

- **Potentially qualifying as natural flavours** under FEMA GRAS regulations
- **Avoiding concerns related to «sin tax»** as they are not problematic ingredients
- **Enabling higher protein** content in protein waters by minimising unpleasant off-notes
- Being **safe food additives** that are trusted for quality and compliance, aligning with more natural product concepts

Jungbunzlauer ingredients in function

Flavour enhancement / Ingredient replacement

- ERYLITE® Erythritol, ERYLITE® Stevia blends
- CITROFOL® AI Triethyl Citrate
- Citric Acid
- Lactic Acid
- Gluconic Acid

Off taste masking

- Sodium Gluconate
- Potassium Lactate
- ERYLITE® Erythritol, ERYLITE® Stevia blends

Limitations in usage levels

EU

- Most Jungbunzlauer ingredients are approved as food additives under Regulation (EC) No 1333/2008 and can be used in food products under the quantum satis principle
- Erythritol is approved as flavour enhancer in energy-reduced flavoured drinks or those with no added sugar, max. 1.6%
- It is recommended to check for eventual specific limitations applicable for some food categories of Regulation (EC) No 1333/2008

USA*

- The following ingredients are listed as GRAS (Generally Recognized As Safe) for use in food without limitations other than current GMP as referenced
  - Citric Acid 21 CFR § 184.1033
  - Lactic Acid 21 CFR § 184.1061 including flavour enhancer, flavouring agent
  - Triethyl Citrate 21 CFR § 184.1911 including flavouring agent
  - Sodium Gluconate 21 CFR § 182.6757
  - Potassium Lactate 21 CFR § 184.1639 including flavour enhancer, flavouring agent or adjuvant
- Erythritol is classified as GRAS by the FDA and is permitted for use in food according to current Good Manufacturing Practices (GMP). Specific upper limits for applications include: Less than 3.5% for reduced or low-calorie carbonated and non-carbonated beverages, as well as dairy products (e.g., chocolate and flavoured milks)
- The Flavour and Extract Manufacturers Association of the United States (FEMA) has granted FEMA GRAS status to the following products: Sodium Gluconate (FEMA No 4934), Erythritol (FEMA No 4819), Triethyl Citrate (FEMA No 3083), for use as a flavour ingredient with modifying properties for specified applications and use levels

*Information is provided here on selected ingredients only. For additional information, please see “JBL Beverage Campaign US Food Additive Regulatory Summary”

Value proposition

Reduction of bitterness, astringency and lingering sweetness

Enhanced sweetness profile

Taste improvement of proteins

Avoidance of sin taxes

Off-note reduction

Balanced acidic taste

Qualification as «natural flavour»

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