Jungbunzlauer

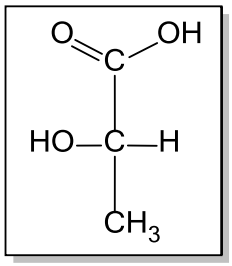
Product Information
L(+)-Lactic Acid Food Grade

General Information

Lactic acid is an organic acid occurring naturally in the human body and in fermented foods. The commercial production of lactic acid is typically done by fermentation. Because the L(+) form is preferred for its better metabolisation, Jungbunzlauer has chosen to produce pure L(+)-lactic acid by traditional fermentation of natural carbohydrates.
Jungbunzlauer L(+)-lactic acid is a mild tasting acidity regulator with flavour enhancing and antibacterial properties. It can be used in a wide range of food, personal care and chemical products.

Chemical Data

Chem. Nomenclature	S(+)-2-hydroxypropanoic acid
Chem. Formula	$C_3H_6O_3$
Molecular weight	90.08 g/mol
pH (50%)	< 2
Specific density at 20°C	1.11 – 1.13 g/ml (50%) 1.18 – 1.20 g/ml (80%) 1.19 – 1.21 g/ml (88%) 1.20 – 1.21 g/ml (90%)
EC No.	201-196-2 (general 200-018-0)
CAS No.	79-33-4 (general 50-21-5)
E-No.	E 270



Characteristics

Jungbunzlauer L(+)-lactic acid is a colourless to yellowish, nearly odourless, syrupy liquid with a mild acid taste. It is commercially available as aqueous solutions of various concentrations. These solutions are stable under normal storage conditions.
Lactic acid is non-toxic to man and the environment, but concentrated solutions of lactic acid can cause skin irritation and eye damage. They have thus to be labelled with a hazard pictogram and related statements. Lactic acid is easily biodegradable.

Legal Aspects

In Europe, lactic acid is listed as a generally permitted food additive (E 270) and may be added to all foodstuffs, following the “quantum satis“ principle, as long as no special regulation restricts the use.
The US Food and Drug Administration (FDA) affirmed lactic acid as GRAS (generally recognized as safe) substance and permitted the use in food with no limitation other than current good manufacturing practice (CFR § 184.1061).

Lactic acid is classified and labelled according to GHS (Globally Harmonized System), implemented by the European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) as follows:

Pictogram:	Signal Word:	Hazard statement H315, H318:	Precautionary statements: P264, P280, P302 + P352, P332 + P313, P305 + P351 + P338, P310:
	Danger	Causes skin irritation. Causes serious eye damage.	Wash skin thoroughly after handling. Wear protective gloves/ eye protection/ face protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

Packaging and Storage

Jungbunzlauer L(+)-lactic acid is currently supplied in bulk, in intermediate bulk containers (IBCs) with 1200kg net weight (1100kg net for the 50% solution), in drums with 250kg net weight (240kg net for the 50% solution) and small drums with 25kg net content. We recommend not to triple stack the pallets.
Jungbunzlauer guarantees a shelf life of 36 months from production date for lactic acid if the product is stored in its original packaging at temperatures between 5 and 30 °C.

Specification

Jungbunzlauer L(+)-lactic acid food grade is supplied in accordance with the requirements of Commission Regulation (EU) No 231/2012 and of the latest edition of the Food Chemicals Codex (FCC).

Jungbunzlauer parameters and limits	50%	80%	80% heat stable	88%	88% heat stable	90% heat stable
Assay	50.0 – 51.0 %	79.5 – 80.5 %	79.5 – 80.5 %	87.5 – 88.5 %	88.0 – 89.0 %	89.5 – 90.5 %
Stereochemical purity (L-isomer)	min. 97 %					
Colour fresh	max. 50 apha	max. 50 apha	max. 35 apha	max. 50 apha	max. 35 apha	max. 35 apha
Colour (6 months, 25°C)	max. 50 apha	max. 50 apha	not specified	max. 50 apha	not specified	not specified
Colour (after heating at 200°C, 2h)	not specified	not specified	max. 50 apha	not specified	max. 50 apha	max. 50 apha
Identification	conforms					
Sulphated Ash	max. 0.05 % w/w	max. 0.1 % w/w	max. 0.05 % w/w	max. 0.1 % w/w	max. 0.05 % w/w	max. 0.05 % w/w
Chloride	max. 10 mg/kg					
Sulphate	max. 10 mg/kg					
Cyanide	max. 5 mg/kg	max. 5 mg/kg	max. 1 mg/kg	max. 5 mg/kg	max. 1 mg/kg	max. 1 mg/kg
Iron	max. 5 mg/kg	max. 10 mg/kg	max. 5 mg/kg	max. 10 mg/kg	max. 5 mg/kg	max. 5 mg/kg
Arsenic	max. 1 mg/kg					
Lead	max. 0.5 mg/kg					
Mercury	max. 0.5 mg/kg	max. 1 mg/kg	max. 1 mg/kg	max. 1 mg/kg	max. 1 mg/kg	max. 1 mg/kg
Heavy metals (as Pb)	max. 5 mg/kg	max. 10 mg/kg	max. 5 mg/kg	max. 10 mg/kg	max. 5 mg/kg	max. 5 mg/kg
Calcium	max. 20 mg/kg					
Citric, oxalic, phosphoric, or tartaric acid	conforms					
Readily carbonisable substances	conforms					
Reducing sugars	conforms					