



גדות תעשיות ביוכימיה בע"מ
Gadot Biochemical Industries Ltd.

Citric Acid

Anhydrous FCC/USP/BP/EP

Description:

Citric Acid is a widely used and environment-friendly acidulant. The acid is manufactured by a submerged fermentation process, using various natural carbohydrates as substrates.

General Characteristics:

Formula:	C ₆ H ₈ O ₇
Molecular weight:	192.13
Appearance:	White crystals
Taste:	Tart acid taste
Odor:	Practically odorless
Solubility (gr./100 ml at 25°C):	In water - 162 In ethanol - 59 In ether - 0.75
CAS Number:	77-92-9
EINECS No.:	201-069-1
E-Number:	E-330

Standard Specifications:

Gadot's Citric Acid meets the standards of the Food Chemical Codex, the United States Pharmacopoeia, the British Pharmacopoeia, and the European Pharmacopoeia. The product complies with the European directive EC 231/2012 in the latest version.

Identification	Meets FCC/USP/EP/BP tests
Appearance	Meets FCC/USP/EP tests
Appearance of solution	Meets EP test
Assay (anhydrous basis)	99.5-100.5%
Water (K.F.)	0.2% max.
Residue on ignition	0.05% max.
Readily carbonizable substances	Passes test
Oxalates	100 ppm max.
Sulphate	150 ppm max.
Arsenic (as As)	0.5 ppm max.
Heavy metals (as Pb)	5 ppm max.
Color of solution	99% min. (%T in 420 nm)
Clarity of solution	4 NTU max.
Lead	0.5 ppm max.
Iron	5 ppm max.
Calcium	75 ppm max.
Mercury	0.1 ppm max.
Chlorides	30 ppm max.
Cadmium	0.5 ppm max.



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Organic Volatile Impurities

Gadot's Citric Acid contains no tridodecylamin nor any polynuclear hydrocarbons or volatile organic impurities. These compounds are not used in the manufacturing process of the above product and if tested they will comply with the required specified limits of U.S.P and E.P.

<u>Impurities</u>	<u>Limit</u>
Benzene	2 PPM
Carbon tetrachloride	4 PPM
1,2 - Dichloroethane	5 PPM
1,1 – Dichloroethene	8 PPM
Chloroform	60 PPM
1,4 - Dioxane	380 PPM
Ethylen Oxide	10 PPM
Methylen Chloride	600 PPM
Tri Chloroethylene	80 PPM

Nutritional Values:

<u>Nutrient</u>	<u>Nutrient quantity</u>
Protein (dairy derived)	- None
Carbohydrates	- None
Fat	- None
Vitamin A	- None
Vitamin C	- None
Thiamin	- None
Riboflavin	- None
Niacin	- None
Calcium	- 75 mg/1 kg max.
Iron	- 5 mg/1 kg max.
Vitamin D	- None
Vitamin B-6	- None
Vitamin B-12	- None
Phosphorus	- None
Magnesium	- 2 mg./1000 gr.
Zinc	- None
Pantotenic Acid	- None
Sodium	- 2 mg./1000 gr.
Potassium	- 2 mg./1000 gr.
Artificial colors	- product does not contain artificial color
Caloric value	- 247 Kcal/100 gr.



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Allergens:

Gadot's Citric Acid doesn't contain any food allergens according to annex 3a of EU directive 2003/89.

Standard Granulation:

Grade	USS Sieve	Microns	
Coarse Granular	On No. 10	> 2000	10% max.
	Through No. 20	< 840	20% max.
Standard Granular	On No. 16	> 1190	1% max.
	Through No. 50	< 300	5% max.
Fine Granular	On No. 30	> 590	5% max.
	Through No. 100	< 150	5% max.

Other requirements:

Foreign Bodies: In compliance with the FDA/ORR compliance policy guide section 555.425.

BSE/TSE

No raw materials from bovine origin are used nor are any bovine constituents present in the product.

Hormones and Antibiotics

No antibiotics or hormones are present in the product.

Mycotoxines:

Total Aflatoxines - less than 4 ppb
Aflatoxins B1 - less than 2 ppb
Aflatoxins M1 - less than 0.05 ppb

Pesticides and Insecticides:

Complies with United States and European food health regulations.

GMO - Status:

The product is a non GMO product and is free from any recombinant DNA technology involvement.



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Irradiation / Radioactivity:

Gadot's Citric Acid was never subjected to any kind of ionized irradiation and contains no radioactivity not even in minor amounts.

Microbiological Specification:

Total viable count	-	500 CFU/gr. max.
Yeast & Molds	-	20 CFU/gr. max.
E. Coli	-	Absent in 10 gr.
Staphylococcus Aureus	-	Absent in 10 gr.
Pseudomonas Aeruginosa	-	Absent in 10 gr.
Salmonella	-	Absent in 25 gr.
Coliforms	-	10 CFU/gr. max.
Listeria Monocytogenes	-	Absent in 25 gr.

Main Uses:

- Imparts fine tangy flavor and sequesters heavy metal ions in soft drinks.
- Preserves flavor, appearance and consistency in canned fruits and vegetables.
- Enhances flavor of fruits, promotes sucrose inversion in candies.
- Acts as a synergist to antioxidants due to complexation of heavy metal ions.
- Helps to create the bubbling and fizzing effect in effervescent tablets.
Used in various creams, ointments and shampoos.
- Not for use in the preparation of injectable solutions.

Packaging:

25 kg. or 50 lb. polyethylene-lined multi-wall paper bags, palletized and stretch-wrapped. Big bags and other packaging available on request.
All packaging materials used are suitable for food applications according to FDA and EU regulations.

Expiry Date:

Citric Acid Anhydrous has a shelf life of two years from production date. The production date is printed on the bags.



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Kosher:

Citric Acid Anhydrous produced by Gadot is strictly Kosher. Kosher certificates are available upon request.

Vegetarians / Vegans:

Citric Acid Anhydrous produced by Gadot is suitable for consumption by vegetarians and vegans.

ISO 9000:

Gadot is ISO-9001 : 2008 certified.

HACCP:

Gadot Biochemical Industries Ltd. Food Safety Management System - HACCP comply with:

1. CODEX ALIMENTARIUS – Annex to CRC/RCP – 1969 Rev.3 (1997).
2. Health Ministry Guide for HACCP, March 2002 Edition.

GMP:

Gadot Biochemical Industries is GMP certified.

Gadot manufacture its Citric Acid Anhydrous under strict supervision and full compliance with all GMP rules, and therefore permitted to label it's product with official GMP symbol as laid down in the public health regulations.

Storage Recommendations:

Store in a cool and dry place.

Updated: December 3, 2015