



גדות תעשיות ביוכימיה בע"מ
Gadot Biochemical Industries Ltd.

Tri Manganese Citrate

Decahydrate FCC

General Characteristics:

Formula:	$Mn_3(C_6H_5O_7)_2 \cdot 10H_2O$
Molecular weight:	723.17
Appearance:	Fine pink free flowing powder
Odor:	Odorless
Solubility:	In water - slightly soluble
CAS Number:	10024-66-5

Standard Specifications:

Gadot's Manganese Citrate meets the standards of the Food Chemical Codex.

Identification

Meets FCC tests

Loss on drying (18 hrs. at 150°C)	23-26%
Assay (dry basis)	96.5-104.8%
Mn content on as is basis	22.0 – 23.9%
Mn content on anhydrous basis	29.3 – 31.8 %
Heavy metals (as Pb)	10 ppm max.
Nitrite and Nitrate	non detectable
Lead	Less than 2 ppm max.
Arsenic (as As)	3 ppm max.
Aluminum	30 ppm max.
Acid insoluble substances	0.2% max.
pH (5%)	4.5 - 8
Sulfates	200 ppm max.

Organic Volatile Impurities

Gadot' Manganese Citrate 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



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<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
Methylene Chloride	600 PPM
Tri Chloroethylene	80 PPM

Nutritional Values:

<u>Nutrient</u>	<u>Nutrient Quantity</u>
Caloric Value	- 130 Kcal/100 gr.
Carbohydrates	- none
Fat	- None
Protein	- None
Salt	- None
Vitamins (A,B,C,D)	- none
Manganese	- 22 – 23.9%
Heavy metals	- 5 ppm max.
Lead	- 0.3 ppm max.
Artificial colors	- product does not contain artificial color
Preservatives	- None
Cholesterol	- None

Allergens

Gadot's Manganese Citrate doesn't contain any food allergens according to annex 3a of EU directive 2003/89 and directive 2007/68/ES.

Typical Granulation:

On 30 US Mesh - 1% max

Other requirements:

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



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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.

Irradiation / Radioactivity:

Gadot's Manganese Citrate 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.



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Main Uses:

- Dietary supplements playing important role as activates various enzymes for proper digestion and utilization of foods.
- Not for use in the preparation of injectable solutions.

Packaging:

50 lb or 25 Kg. polyethylene-lined carton boxes, palletized and stretch-wrapped.
All packaging materials used are suitable for food applications according to FDA and EU regulations.

Expiry Date:

Manganese Citrate has a shelf life of two years from production date. The production date is printed on the bags.

Kosher & Halal:

Manganese Citrate produced by Gadot is strictly Kosher and Halal. The certificates are available upon request.

Vegetarians / Vegans:

Manganese Citrate 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.



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GMP:

Gadot Biochemical Industries is GMP certified.
Gadot manufacture its Manganese Citrate 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, dry place.

Updated: December 3rd, 2015