



**PRODUCT :** **NATURAL L(+)-TARTARIC ACID**  
 Chemical names: L(+)-Tartaric Acid, & (2R, 3R) , 2, 3, dihydroxybutane 1,4 dioic acid.  
 Formula: **C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>**.  
 Type : **F-350 (295-400  $\mu$ m)**

**IDENTIFICATION CODES:**  
 E.C. IDENTIFICAT.: E-334, EINECS:201-766-0, CAS : 87-69-4.

**DESCRIPTION :**  
 Natural Tartaric Acid is obtained from by- products of grapes as pomace, filter cake and liquid wine lees. The production process is water based. Excellence is achieved by means of two crystallization stages.

**SPECIFICATIONS**

BONOLLO SPECIFICATION		European Pharmacopoeia (EC)	National Formulary USP -NF & FCC (USA)
APPEARANCE:	<i>Colourless or white crystals, odourless.</i>		
IDENTIFICATION:	<i>Meets the requirements</i>	Meets identification test	Meets identification test
COLOUR AND CLARITY OF SOLUTION	<i>Meets the requirements</i>	Meets the requirements	Meets the requirements
SOLUBILITY	<i>147 gr/100 ml in water at 25°C</i>	Meets the requirements	Meets the requirements
pH	<i>2.2 (1.47 g/ml in water)</i>	Meets the requirements	Meets the requirements
PURITY (ASSAY)	<i>min 99,5 max 101,0 gr./100 gr (Eu-Ph) min 99,7 max 100,5 gr./100 gr (USP-NF)</i>	Min.99.5 max 101.0 gr./100gr <u>min 99,5 (EU No 231/2012)</u>	Min.99.7 max 100.5 gr./100gr
SPECIFIC ROTATION	<i>+12,0 / +12.8 degrees (Eu-Ph) +12.0 / +13.0 degrees (USP-NF)</i>	+12.0/+12.8 degrees <u>min+11,5 max +13,5 (EU No231/2012)</u>	+12.0/+13.0 degrees
MELTING POINT	<i>168° - 170° degrees °C</i>	168° - 170° degrees °C	
LOSS ON DRYING	<i>Max 0,20 gr. /100 gr.</i>	max 0.2 gr./100 gr. <u>max 0,5 (EU No 231/2012)</u>	max 0.5 gr./100 gr.
SULPHATED ASH	<i>Max 0,05 gr. /100 gr.</i>	max 0.1 gr./100 gr.	max 0.1 gr./100 gr.
SULPHATES	<i>Max 100 ppm</i>	max 150 ppm	--
CHLORIDES	<i>Max 50 ppm</i>	max 100 ppm	--
OXALIC ACID	<i>Max 15 ppm</i>	max 350 ppm <u>max 100 ppm (EU No 231/2012)</u>	--
HEAVY METALS	<i>Max 5.00 ppm</i>	max 10 ppm As Pb	max 10 ppm As Pb
LEAD	<i>Max 0,20 ppm</i>	<u>max 2 mg/kg (EU No 231/2012)</u>	<u>Max 2 mg/kg (FCC IX)</u>
IRON	<i>Max 5.00 ppm</i>	Max 5.0 ppm Codex enolog.Intern.	Max 5.0 ppm Codex enolog.Intern
MERCURY	<i>Max 0,10 ppm</i>	<u>max 1 mg/kg (EU No 231/2012)</u>	
ARSENIC	<i>Max 0,10 ppm</i>	<u>Max 0.1 ppm Our own limit</u>	
CALCIUM	<i>Max 10,00 ppm</i>	max 200 ppm	--
CARBON-14 (C <sup>14</sup> )	<i>Min 12,0 dpm/g C</i>	--	--
ORGANIC VOLATILE IMPURITIES	<i>Meets the requirements</i>		

**PARTICLE SIZE:**  
 > 400 microns = 10% max  
 250 – 400 microns = 50-100 % max  
 < 250 microns = 40% max

**PACKAGING:**  
 - 25 Kg paper bag with a separate inside liner of polyethylene  
 - 200 : 1500 Kg big bags in polypropylene with an inside bag of polyethylene or in polyethylenated polypropylene big bags

**HANDLING:**  
 HANDLING PRECAUTIONS: Avoid contact with the eyes and skin. If clothing is contaminated, remove and rinse the affected parts of the body thoroughly. Wash contaminated clothing before reuse. Do not swallow. Use adequate ventilation.

**STORAGE:**  
 STORAGE CONDITIONS: Keep containers in a cool, dry, well-ventilated place; room temperature. Storage for more than two years is not recommended. Keep away from strongly oxidising substance.

- REFERENCES FOR SPECIFICATIONS:**
- National Formulary USP-NF (USA), current edition
  - Food Chemical Codex (USA), current edition
  - European Pharmacopoeia (EC), current edition
  - British Pharmacopoeia 2010
  - EU 231/2012 ,
  - Codex Oenologique 2011.
  -

