



Material Technical Data Sheet

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L (+) TARTARIC ACID E 334		
Sheet nr. AT-0001	Compilation Date :	01.02.2008
Revision : 1	Revision Date :	28.06.2010
	Reporter :	Lucio Vidotto

DESCRIPTION		<p>(2R,3R)-2,3-dihydroxybutane-1,4-dioic Acid Molecular Weight = 150.09 EC-No. E334 CAS-No. 87-69-4 EINECS-No. 2017660</p>
$C_4H_6O_6$		
<p>Tartaric Acid appears as colourless crystals or white powder, almost odourless, of strongly acid taste, stable in air and hygroscopic at relative humidity higher than 75 %.</p> <p>Widely spread in nature, it is present in many fruits, free or combined with potassium, calcium or magnesium. Examined in the ancient times as acid salt of potassium found in deposit as fine crystalline scale during the fermentation of grape and tamarind musts, it was called <i>faecula</i> (little yeast) by the Romans and got then the present denomination from the word <i>tartarus</i> (tartarus) of medieval and alchemistic origin. Centuries of large use witness the safe properties of Tartaric Acid, confirmed universally in the related food laws. The WHO/FAO, thru the Joint Expert Committee on Food Additives (JECFA 1977-1983-1990) approved its ADI (Acceptable Daily Intake) of 30 mg/kg of body weight for L(+) Tartaric Acid, while the D and DL forms of synthetic and unnatural origin were forbidden.</p> <p>The quality system of Caviro Distillerie for the control of production process and finished product grants the compliance of our Tartaric Acid to the national and international requirements of Quality Assurance and HACCP.</p>		

COMPLIANCE: The T. Acid of Caviro Distillerie is complying to all the requirements of the following pharmacopeias:	
PH.EUR. - European Pharmacopoeia	U.S.P. - United States Pharmacopoeia
F.U. - Farmacopea Ufficiale	N.F. - National Formulary
D.M. n° 199 del 11 Novembre 2009	F.C.C. - Food Chemical Codex
B.P. - British Pharmacopoeia	D.A.B. - Deutsches Arzneibuch
J.P. - Japanese Pharmacopoeia	Codex Oenologique International



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CHEMICAL SPECIFICATION					
PARAMETRES	U.M.	MEDIUM VALUE	LIMIT VALUE	REFERENCE	
Assay:		%	99,8 - 100,5	99,8 - 100,5	Ph.Eur.
Specific rotation (20% w/v):		°	+12,0 - +12,8	+12,0 - +12,8	Ph.Eur.
Melting point	° C		168 - 170	168 - 170	D.M. 199 - 11.11.2009
Oxalates:		ppm	< 20	50	* inside limit of
Caviro					
Chlorides:		ppm	< 20	100	Ph.Eur.
Sulphates:		ppm	< 40	100	* inside limit of
Caviro					
Calcium:		ppm	< 20	200	Ph.Eur.
Heavy Metals (as Pb):	ppm		< 4	4	* inside limit of Caviro
Loss on drying:	%		< 0,10	0,2	Ph.Eur.
Sulphated Ash:	%		< 0,05	0,05	F.C.C.
Lead	ppm		< 0,05	0,5	* inside limit of Caviro
Mercury		ppm	< 0,10	0,5	* inside limit of
Caviro					
Nickel	ppm		< 0,20	0,5	* inside limit of Caviro
Copper		ppm	< 0,20	0,5	* inside limit of
Caviro					
Zinc	ppm		< 0,10	0,5	* inside limit of Caviro
Iron	ppm		< 5	10	Codex Oenologique Int.
Arsenic		ppm	< 1	1	* inside limit of
Caviro					

*Caviro limit is reported when it's more strict than the required limit required by the internationals Farmacopee



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PHYSICAL AND CHEMICAL PROPERTIES

Solubility: in water	139 g/100ml at 20 °C	Specific weight: real	1,7598
g/ml			
	147 g/100ml at 25 °C	apparent from	0,8 a 1,1
g/ml			
in alcohol	33 g/100ml at 25 °C	Melting point:	from 168 to 170 °C
in ether	0,4 g/100ml at 25 °C	pH (1470 g/l in water):	2,2

STANDARD PARTICLE SIZES in microns – Other size grades are available upon request from the customer.

Granular type 3	> 1000	5 % max	Fine Granular type UB	> 300	5 % max	
		< 630			< 75	10 % max
Granular type 2	> 710	5 % max	Powder type 0 and 00	> 200	0,5 % max	
		< 425			> 90	0,5 % max
Fine Granular type 2V	> 500	5 % max	Powder type 000 (90)	> 63	0,5 % max	
		< 250			> 63	0,5 % max

PACKAGING

Our Tartaric Acid is packed in 25 kg bags of multiply paper sewn on the top with an internal polyethylene bag thermowelded. Alternatively it can be packed into big bags of polypropylene coated with PE inside weighting from 500 to 1250 kg upon request. The bags or big bags are palletized and wrapped with shrinkable polyethylene. Each pallet is composed by product of the same batch and each batch belongs to one single process batch number and size grade.

Every bag or big bag is labelled with the law indications and batch identifications

STORAGE

The Tartaric Acid of Tartarica Treviso is chemically stable, but we recommend our customers to operate a good storage rotation, to avoid pallets double-stacking and anyway to reduce the storage time to less than 12 months in order to avoid the caking of the material. It must be kept in the original packing, in a dry and cool place, avoiding to expose it to very hot or very cold temperatures and to direct sun light.

USE AND APPLICATIONS

Acidifier, antioxidant, flavour exalter and stabilizer, metals complexer and sequestrator.

1. Food:

Production of tinned food, jam, jelly, confectionery and biscuits in general.

Production of soft drinks and table waters. Acidifier in wine-making field.

Intermediary for the production of tartaric esters, used as emulsifiers in all the main food industries.

2. Pharmaceutical and Cosmetic:

Preparation of effervescent tablets and soluble drugs. Excipient and acidifier in syrups and antibiotics.

Production of natural beauty creams for face and body.

3. Technical:

Retarding agent in the preparation of gypsum, it improves plasticity and resistance of cements and concretes; it is used in the formulation of waterproof cements heat-insulators.

It is also used in textiles (dyeing and printing), tannings, ceramics e galvanoplastics.



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NUTRITIONAL DATA		Average Value (g/100g)
Energy	(Kilojoules)	1292
	(Kilocalories)	298
Protein	(N x 6.25)	Nil
Carbohydrate		99.9
	of which Organic Acids	99.9
	of which Sugars	Nil
	of which Polyols	Nil
	of which Starch	Nil
Fat		Nil
	of which Saturates	Nil
	of which Mono-unsaturates	Nil
	of which Polyunsaturates	Nil
	of which Cholesterol (mg)	Nil
Fibre		Nil
Sodium & Potassium		max 30 ppm
Loss on drying		0.1 %
Sulphated ash		0.01 %
Glucose		Nil
Lactose		Nil
Maltose		Nil
Fructose		Nil
Invert Sugar		Nil
Sucrose		Nil
Total Monosaccharides		Nil
Total Disaccharides		Nil
Trans Fatty Acids		Nil
Milk Fat		Nil
Milk Protein		Nil
Ethanol		Nil



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SAFETY

Tartaric Acid is not included in the EEC/UNO list of dangerous substances. Its acidity anyway requires the user to avoid direct contact with eyes and skin, inhalation and ingestion. Small sprinkles can be washed with plenty of water.

Danger Symbols : Xi – Irritant

Risk Sentences (R) : R 36 / 37 / 38

Safety Sentences (S) : S 26 – S 36

However we suggest to consult our Material Safety Data Sheet for further information.

In water solution it is moderately corrosive, so for contact materials it is better to use stainless steel 316-L or plastics.

Tartaric Acid gets carbonized with exhalation of acidic fumes when exposed to a continuous and intense heat source or flame, but it stops burning as soon as the heat source is eliminated.

Dangerous decay products: none.

Dangerous reactions: none.

This product is completely biodegradable, but large spreadings may require a neutralization before discharge, anyway following the environmental rules and laws in force on the spot.

However we suggest to consult our Material Safety Data Sheet for further information.

GUARANTEE

The information contained in this Technical Sheet is based on our present knowledge, so they cannot be considered as guarantees of specific products properties and they cannot justify any legal contractual connection.