COEI-1-CALTAR Calcium tartrate

Dextrorotatory Calcium Tartrate

Calcium tartaricum

(OOC-CHOH-CHOH-COO) Ca, $4H_2O$

Tetrahydric L(+)-2,3- calcium dihydoxybutanedioate

(OOC-CHOH-CHOH-COO) Ca, H_2O

$C_4H_{12}CaO_{10}$ = 260.13

SIN No. 354

1. Objective, Origin and Scope of Application

A natural wine salt primarily originating from wine residues. It is therefore typically found in L(+) form. It usually crystallizes in tetrahydrated form.

This product promotes triggering of the precipitation of the natural calcium tartrate in wine by means of a seeding technique.

2. Labelling

The label should indicate product concentration, even when used in mixtures, as well as its safety and storage conditions.

3. Centesimal Composition

Tartaric acid	57.7
Calcium	15.4
Water	27.9

4. Properties

Fine, crystalline powder with a white or off-white color. Tasteless. Melting point is 270 °C.

5. Solubility

Water at 20 °C	0.525 g/l
Alcohol, 95% by vol.	0.15 g/l
Ethyl ether	0.01 g/l

6. Tests

6.1. Rotatory Power

Dissolve 1 g of the substance in 1l of 1 M hydrochloric acid. After it has completely dissolved, it gives:

$$[\alpha]_D^{20°C} = +7,2 \pm 0,2°$$

Rotatory power is sensitive to slight variations in pH.

6.2. pH in Saturate Solution

- Add 1 g of the product to 100 ml of distilled water.
- After shaking for one hour and allowing the precipitate to resettle (15 minutes), an increase in pH of between 1.5 and 2.5 pH units should be observed.

6.3. Desiccation Loss

- Desiccation loss is determined up to constant weight in precisely-weighed sample of about 1 g.
- At a temperature of between 100 and 105 °C, weight loss should be less than or equal to 2.5 pp 100.

6.4. Preparing the Solution for Tests

Dissolve a sample precisely weight to about 1 g in 100 ml of 1 M hydrochloric acid.

6.5. Sulfates

- Take 10 ml of the test solution (Par. 6.4) and add to it 1 ml of 10 pp 100 barium chloride solution (R).

- After homogenization, let sit after 15 minutes.
- No clouding should occur.
- If clouding does occur, it should be less intense than that in a control prepared using the method indicated in the Annex. (Sulfate content, expressed in terms of sulfuric acid, should be less than 1 g/kg).

6.6. Heavy Metals

Add 0.5 ml of concentrated ammonium hydroxide (R), 2 ml of pH 3.5 buffer solution (R) and 1.2 ml of thioacetamide reagent (R) to 10 ml of the test solution prepared under paragraph 6.4. (Heavy metal content, expressed in terms of lead, should be less than 10 mg/kg).

6.7. Lead

Using the method described in the Compendium, quantify lead analytically in the test solution prepared according to Par. 6.4. (Lead content should be less than 5 mg/kg).

6.8. Mercury

Using the method described in the Annex, quantify mercury analytically in the test solution prepared according to Par. 6.4. (Mercury content should be less than 1 mg/kg).

6.9. Arsenic

Using the method described in the Annex, quantify arsenic analytically in the test solution prepared according to Par. 6.4.

(Arsenic content should be less than 3 mg/kg).

6.10. Basic Residue Determination

- Dissolve a sample, p, of tetrahydric calcium tartrate weighed precisely at about 0.5 g in 25 ml of 1 M hydrochloric acid solution (R).
- Bring to boiling under reflux and allow to cool.
- Titrate the excess acid using 1 M sodium hydroxide solution (R) and in the presence of methyl red (R). Let *n* be the quantity in millimeters of the 1 M sodium hydroxide solution used. 1 ml of 1 M hydrochloric acid corresponds to 0.05005 g of calcium carbonate.
- The content in parts per 100 of calcium carbonate is:

$$\frac{(25-n).5,005}{p}$$

The products used in winemaking should contain a maximum of 3 pp 100 basic residues expressed in terms of calcium carbonate.

7. Storage

Calcium tartrate should be stored away from moisture in hermetically-sealed containers.