OIV-MA-AS2-04 Ash

Type I method

1. Definition

The ash content is defined to be all those products remaining after igniting the residue left after the evaporation of the wine. The ignition is carried out in such a way that all the cations (excluding the ammonium cation) are converted into carbonates or other anhydrous inorganic salts.

2. Principle

The wine extract is ignited at a temperature between 500 and 550°C until complete combustion (oxidation) of organic material has been achieved.

3. Apparatus

3.1. boiling water□bath at 100□C;
3.2. balance sensitive to 0.1 mg;
3.3. hot□plate or infra□red evaporator;
3.4. temperature□controlled electric muffle furnace;
3.5. dessicator;
3.6. flat□bottomed platinum dish 70 mm in diameter and 25 mm in height.

4. Procedure

Pipette 20 mL of wine into the previously tared platinum dish (original weight □o g). Evaporate on the boiling water-bath, and heat the residue on the hot□plate at 200°C or under the infra□red evaporator until carbonization begins. When no more fumes are produced, place the dish in the electric muffle furnace maintained at 525 ± 25°C. After 15 min or carbonization, remove the dish from the furnace, add 5 mL of distilled water, evaporate on the water□bath or under the infra□red evaporator, and again heat the residue to 525°C for 10 min.

If combustion (oxidation) of the carbonized particles is not complete, the following operations are repeated: washing the carbonized particles, evaporation of water, and ignition. For wines with a high sugar content, it is advantageous to add a few drops of

pure vegetable oil to the extract before the first ashing to prevent excessive foaming. After cooling in the desiccator, the dish is weighed (□1 g).

The weight of the ash in the sample (20 mL) is then calculated as $p = (□_1 - □_0)$ g.

5. Expression of results

The weight P of the ash in grams per liter is given to two decimal places by the expression:

$P = 50\ p.$