

ANNEX I

ANNEX II

METHODS OF ANALYSIS FOR DETERMINATION OF THE MIGRATION OF LEAD AND CADMIUM

1. Object and field of application

The method allows the specific migration of lead and/or cadmium to be determined.

2. Principle

The determination of the specific migration of lead and/or cadmium is carried out by an instrumental method of analysis that fulfils the performance criteria of point 4.

3. Reagents

- All reagents must be of analytical quality, unless otherwise specified.
- Where reference is made to water, it shall always mean distilled water or water of equivalent quality.

3.1. 4 % (v/v) acetic acid, in aqueous solution

Add 40 ml of glacial acetic acid to water and make up to 1 000 ml.

3.2. Stock solutions

Prepare stock solutions containing 1 000 mg/litre of lead and at least 500 mg/litre of cadmium respectively in a 4 % acetic acid solution, as referred to in point 3.1.

4. Performance criteria of the instrumental method of analysis

4.1. The detection limit for lead and cadmium must be equal to or lower than:

- 0,1 mg/litre for lead,
- 0,01 mg/litre for cadmium.

The detection limit is defined as the concentration of the element in the 4 % acetic acid solution, as referred to in point 3.1, which gives a signal equal to twice the background noise of the instrument.

4.2. The limit of quantification for lead and cadmium must be equal to or lower than:

- 0,2 mg/litre for lead,
- 0,02 mg/litre for cadmium.

4.3. *Recovery*. The recovery of lead and cadmium added to the 4 % acetic acid solution, as referred to in point 3.1, must lie within 80-120 % of the added amount.

4.4. *Specificity*. The instrumental method of analysis used must be free from matrix and spectral interferences.

5. Method

5.1. Preparation of the sample

The sample must be clean and free from grease or other matter likely to affect the test.

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Wash the sample in a solution containing a household liquid detergent at a temperature of approximately 40 °C. Rinse the sample first in tap-water and then in distilled water or water of equivalent quality. Drain and dry so as to avoid any stain. The surface to be tested is not to be handled after it has been cleaned.

5.2. Determination of lead and/or cadmium

- The sample thus prepared is tested under the conditions laid down in Annex I.
- Before taking the test solution for determining lead and/or cadmium, homogenise the content of the sample by an appropriate method, which avoids any loss of solution or abrasion of the surface being tested.
- Carry out a blank test on the reagent used for each series of determinations.
- Carry out determinations for lead and/or cadmium under appropriate conditions.