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Formaldehyde solutions for industrial use — Determination of ash

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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2224 was drawn up by Technical Committee ISO/TC 47, *Chemistry.*

It was approved in July 1971 by the Member Bodies of the following countries :

Austria	Israel	Switzerland
Belgium	Italy	Turkey
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	New Zealand	U.S.A.
Germany	Romania	U.S.S.R.
Hungary	South Africa, Rep. of	
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No Member Body expressed disapproval of the document.

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Formaldehyde solutions for industrial use — Determination of ash

WARNING

Formaldehyde is toxic. It is therefore necessary to avoid inhaling its vapour during sampling and testing.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of ash in formaldehyde solutions for industrial use.

2 APPARATUS

Ordinary laboratory apparatus and

2.1 Electric furnace, capable of being controlled at 600 ± 30 °C.

3 SAMPLING

Follow the principles given in ISO . . .[1].

Attention is drawn to the following recommendation. Place the laboratory sample, representative of the material taken from the bulk, in a clean, dry, and air-tight glass stoppered bottle of such a size that it is nearly filled by the sample.

If it is necessary to seal this bottle care shall be taken to avoid the risk of contamination.

Owing to polymerization, paraformaldehyde will tend to be deposited on standing and this will occur more rapidly if the temperature is allowed to fall below 25 °C. Accordingly the material shall be sampled as soon as possible after receipt.

4 PROCEDURE

4.1 Test portion

Weigh 300 ± 5 g of the laboratory sample into a 500 ml beaker.

4.2 Determination

Place the beaker containing the test portion (4.1) on a hot-plate and evaporate in a fume cupboard until the volume is reduced to about 50 ml. Transfer the liquid quantitatively to a platinum or silica basin, previously heated to 600 ± 30 °C, cooled in a desiccator and weighed, to the nearest 0,2 mg. Evaporate to dryness on a boiling water bath.

Heat the basin and its contents, gently at first to volatilize the paraformaldehyde, then at 600 ± 30 °C in the electric furnace (2.1) for 1 h.

Cool in a desiccator and weigh to the nearest 0,2 mg.

Repeat the operations of heating, cooling and weighing until the difference in successive masses does not exceed 0,5 mg.

5 EXPRESSION OF RESULTS

Ash, expressed as a percentage by mass, is given by the formula

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the residue.

6 TEST REPORT

The test report shall include the following particulars :

a) the reference of the method used;

b) the results and the method of expression used;

c) any unusual features noted during the determination;

d) any operation not included in this International Standard, or regarded as optional.

1) Sampling from the consignment of the product will form the subject of a future International Standard.

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