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INTERNATIONAL STANDARD ISO 2514

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Acetaldehyde for industrial use — Determination of water content — Karl Fischer method

Acétaldéhyde à usage industriel — Dosage de l'eau — Méthode de Karl Fischer

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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 2514 was drawn up by Technical Committee ISO/TC 47, *Chemistry*, and circulated to the Member Bodies in August 1971.

It has been approved by the Member Bodies of the following countries :

Austria	Israel	Sweden
Belgium	Netherlands	Switzerland
Egypt, Arab Rep. of	New Zealand	Thailand
France	Poland	United Kingdom
Germany	Portugal	U.S.A.
Hungary	Romania	U.S.S.R.
India	South Africa, Rep. of	
Ireland	Spain	

No Member Body expressed disapproval of the document.

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INTERNATIONAL STANDARD ISO 2514-1974 (E)

Acetaldehyde for industrial use — Determination of water content — Karl Fischer method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the Karl Fischer method for the determination of water content of acetaldehyde (CH_3CHO) for industrial use.

2 REFERENCE

ISO/R 760, *Determination of water by the Karl Fischer method.*

3 SAMPLING

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

Liquid acetaldehyde (b.p. 20,2 °C) exerts a vapour pressure of approximately 1,5 bar[2)] at 30 °C and samples must be taken with care in clean stainless steel flasks purged with nitrogen fitted with a screw cap and designed to withstand the internal pressure generated at foreseeable storage temperatures. Samples shall only be drawn from containers at temperatures below 20 °C unless equipment designed for transferring liquids under pressure is employed, and the container is fitted with a valve for connection to the sample receiver.

4 PROCEDURE

Use the direct electrometric titration method specified in clause 7 of ISO/R 760, subject to the following modifications appropriate for acetaldehyde.

4.1 Sample solvent (See 4.4 in ISO/R 760)

Either dimethylformamide or a mixture of dimethylformamide and pyridine.

4.2 Karl Fischer reagent (See 4.5 in ISO/R 760)

Prepare a reagent containing :

— dimethylformamide	670 ml
— pyridine	270 ml
— sulphur dioxide, liquid	50 g approximately
— iodine, resublimed	40 g

4.3 Medical syringes (See 5.1.2 in ISO/R 760)

Carry out the test portion additions by means of a pipette, a medical syringe or a chromatographic type syringe, constructed of glass.

5 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 the document to which reference is made, or regarded as optional.

1) In preparation.

2) 1 bar = 10^5 Pa.

ANNEX

This document forms part of the following series on methods of test for acetaldehyde for industrial use :

ISO 2513 — *Determination of density at 15 °C.*

ISO 2514 — *Determination of water content — Karl Fischer method.*

ISO 2885 — *Determination of total carbonyl compounds — Volumetric method.*

ISO 2886 — *Determination of iron content — 2,2'-bipyridyl photometric method.*