

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1551

withdrawn 1981

POTASSIUM HYDROXIDE FOR INDUSTRIAL USE

DETERMINATION OF SODIUM

GRAVIMETRIC METHOD USING URANYL ACETATE
AND MAGNESIUM ACETATE

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1551, *Potassium hydroxide for industrial use – Determination of sodium – Gravimetric method using uranyl acetate and magnesium acetate*, was drawn up by Technical Committee ISO/TC 47, Chemistry, the Secretariat of which is held by the Ente Nazionale Italiano di Unificazione (UNI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1551, which was circulated to all the ISO Member Bodies for enquiry in July 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Israel	South Africa, Rep. of
Belgium	Italy	Spain
Colombia	Korea, Rep. of	Switzerland
Czechoslovakia	Netherlands	Thailand
Germany	New Zealand	Turkey
Hungary	Poland	U.A.R.
India	Portugal	U.S.S.R.
Iran	Romania	

The following Member Bodies opposed the approval of the Draft :

France
United Kingdom

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

POTASSIUM HYDROXIDE FOR INDUSTRIAL USE

DETERMINATION OF SODIUM

GRAVIMETRIC METHOD USING URANYL ACETATE

AND MAGNESIUM ACETATE *

1. SCOPE

This ISO Recommendation describes a gravimetric method for the determination of sodium in potassium hydroxide for industrial use (solid or dissolved product), as uranyl-magnesium and sodium acetate.

2. FIELD OF APPLICATION

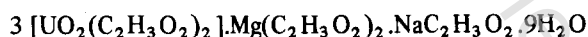
The method can be applied to the determination of sodium contents (expressed as NaOH) which are greater than or equal to 0.01 % (m/m) (based on KOH).

Two possibilities should be considered :

- (a) NaOH/KOH ratio greater than or equal to 1/100;
- (b) NaOH/KOH ratio less than 1/100.

3. PRINCIPLE

Precipitation of the sodium in the form of the triple acetate of uranyl-magnesium and sodium, insoluble in 95 % (V/V) ethanol, of the formula



Elimination of the $9\text{H}_2\text{O}$ by drying at 110 to 120 °C to constant mass, and weighing.

4. REAGENTS

Distilled water or water of equivalent purity should be used in the test.

4.1 *Uranyl-magnesium acetate solution*

- 4.1.1 Dissolve 100 g of uranyl acetate $[\text{UO}_2(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2\text{H}_2\text{O}]$ in water. Add 60 g of glacial acetic acid (4.3), transfer to a 1000 ml volumetric flask, dilute to the mark and mix.

* This method is intended to permit the determination when no flame spectrophotometer is available or when the content to be determined is smaller than 0.1 % (m/m).