INTERNATIONAL STANDARD 853

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Sodium tripolyphosphate and sodium pyrophosphate for industrial use — Determination of loss on ignition

Tripolyphosphate et pyrophosphate de sodium à usage industriel — Détermination de la perte au feu

First edition — 1976-11-01

UDC 661.635.2 : 543.716 **Ref. No. ISO 853-1976 (E)**

Descriptors : sodium trypolyphosphates, sodium pyrophosphates, chemical analysis, measurement, loss on ignition.

Price based on 2 pages

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.

Prior to 1972, the results of the work of the technical committees were published as ISO Recommendations; these documents are in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 47, *Chemistry*, has reviewed ISO Recommendation R 853-1968 and found it technically suitable for transformation. International Standard ISO 853 therefore replaces ISO Recommendation R 853-1968, to which it is technically identical.

ISO Recommendation R 853 had been approved by the member bodies of the following countries :

Austria	Israel	South Africa, Rep. of
Belgium	Italy	Spain
Brazil	Japan	Switzerland
Bulgaria	Korea, Dem. P. Rep. of	Thailand
Czechoslovakia	Korea, Rep. of	Turkey
Egypt, Arab Rep. of	Morocco	United Kingdom
France	Netherlands	U.S.S.R.
Germany	New Zealand	Yugoslavia
Hungary	Poland	
India	Romania	

No member body had expressed disapproval of the Recommendation.

No member body disapproved the transformation of the Recommendation into an International Standard.

Printed in Switzerland

Sodium tripolyphosphate and sodium pyrophosphate for industrial use — Determination of loss on ignition

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the loss on ignition of sodium tripolyphosphate (*penta*sodium triphosphate) and sodium pyrophosphate (*tetra*sodium diphosphate) for industrial use.

2 PRINCIPLE

Ignition of a test portion at 550 ± 25 °C to constant mass.

3 APPARATUS

Ordinary laboratory apparatus and

3.1 Porcelain crucible, of diameter approximately 25 mm.

3.2 Electric furnace, capable of being controlled at 550 ± 25 °C.

4 PROCEDURE

4.1 Test portion

Weigh, to the nearest 0,001 g, approximately 5 g of the test sample, into the porcelain crucible (3.1) previously ignited at 550 °C, cooled in a desiccator and weighed to the nearest 0,000 1 g.

4.2 Determination

Place the crucible containing the test portion (4.1) in the furnace (3.2), start heating and progressively raise the temperature to 550 ± 25 °C. Maintain at this temperature for about 1 h. Then remove the crucible from the furnace, place in a desiccator, allow to cool and weigh to the nearest 0,000 1 g. Repeat the heating at 550 ± 25 °C until constant mass is reached, i.e. until two consecutive weighings do not differ by more than 0,000 2 g.

5 EXPRESSION OF RESULTS

The loss on ignition is given, as a percentage by mass, by the formula

$$\frac{m_1 - m_2}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion (4.1);

m_1 is the mass, in grams, of the crucible and test portion before ignition;

m_2 is the mass, in grams, of the crucible and test portion after ignition.

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.

ANNEX

ISO PUBLICATIONS RELATING TO CONDENSED SODIUM PHOSPHATES FOR INDUSTRIAL USE

SODIUM PYROPHOSPHATE (*tetra*sodium diphosphate)

ISO 2999 — Estimation of pyrophosphate content — Potentiometric method.

SODIUM TRIPOLYPHOSPHATE (*penta*sodium triphosphate)

ISO 850 — Determination of matter insoluble in water.

ISO 851 — Measurement of pH — Potentiometric method.

ISO 3000 — Estimation of tripolyphosphate content — Tris(ethylenediamine) cobalt(III) chloride gravimetric method.

SODIUM PYROPHOSPHATE AND SODIUM TRIPOLYPHOSPHATE (*tetra*sodium diphosphate and *penta*sodium triphosphate)

ISO 852 — Determination of iron content — 2,2′-Bipyridyl photometric method.

ISO 853 — Determination of loss on ignition.

ISO 2996 — Determination of particle size distribution by mechanical sieving.

ISO 2998 — Determination of orthophosphate content — Photometric method using the reduced molybdophosphate.

ISO 3357 — Determination of total phosphorus(V) oxide content — Quinoline phosphomolybdate gravimetric method.

ISO 3358 — Separation by column chromatography and determination of the different phosphate forms.