

INTERNATIONAL STANDARD**850**

G-92-52

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

Sodium tripolyphosphate for industrial use — Determination of matter insoluble in water

Tripolyphosphate de sodium à usage industriel — Détermination de l'insoluble dans l'eau

First edition — 1976-11-01

UDC 661.635.2 : 543.725

Ref. No. ISO 850-1976 (E)

Descriptors : sodium tripolyphosphates, chemical analysis, insoluble matter, gravimetric analysis.

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 850-1968 and found it technically suitable for transformation. International Standard ISO 850 therefore replaces ISO Recommendation R 850-1968, to which it is technically identical.

ISO Recommendation R 850 had been approved by the member bodies of the following countries :

Austria	India	Romania
Belgium	Israel	South Africa, Rep. of
Brazil	Italy	Spain
Bulgaria	Japan	Switzerland
Chile	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	

No member body had expressed disapproval of the Recommendation.

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

Sodium tripolyphosphate for industrial use — Determination of matter insoluble in water

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the matter insoluble in water in sodium tripolyphosphate (*pentasodium triphosphate*) for industrial use.

2 PRINCIPLE

Dissolution of a test portion, separation of any insoluble matter by filtration, drying and weighing.

3 REAGENTS

During the analysis, use only distilled water or water of equivalent purity.

4 APPARATUS

Ordinary laboratory apparatus and

4.1 Filter crucible, with sintered glass disk, of porosity P 40 (pore size index between 15 and 40 μm).

4.2 Electric oven, capable of being controlled at $110 \pm 5^\circ\text{C}$.

5 PROCEDURE

5.1 Test portion

Weigh, to the nearest 0,01 g, approximately 10 g of the test sample.

5.2 Determination

Place the test portion (5.1) in a beaker of suitable capacity (for example 400 ml) and dissolve in approximately 200 ml of water.

Boil the solution for about 10 min, cool and immediately filter under vacuum in the sintered glass crucible (4.1), previously dried for 2 h in the electric oven (4.2), controlled at $110 \pm 5^\circ\text{C}$, cooled in a desiccator and weighed to the nearest 0,000 1 g. Wash the precipitate until the filtrate is phosphate-free (qualitative test).

Place the crucible in the electric oven, controlled at $110 \pm 5^\circ\text{C}$, and keep at this temperature for 2 h. Then remove the crucible from the oven, place in a desiccator, allow to cool and weigh to the nearest 0,000 1 g.

The cooling time in the desiccator shall be equal to that adopted for taring the empty crucible.

6 EXPRESSION OF RESULTS

The matter insoluble in water is given, as a percentage by mass, by the formula

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

where

m_0 is the mass, in grams, of the test portion (5.1);

m_1 is the mass, in grams, of the filtered and dried insoluble matter.

7 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** (*tetrasodium diphosphate*)

ISO 2999 – Estimation of pyrophosphate content – Potentiometric method.

SODIUM TRIPOLYPHOSPHATE (*pentasodium 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 (*tetrasodium diphosphate and pentasodium 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.