INTERNATIONAL STANDARD 1686

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

Sodium and potassium silicates for industrial use — Samples and methods of test — General

Silicates de sodium et de potassium à usage industriel — Échantillons et technique des essais — Généralités

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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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 47 has reviewed ISO Recommendation R 1686 and found it technically suitable for transformation. International Standard ISO 1686 therefore replaces ISO Recommendation R 1686-1970 to which it is technically identical.

ISO Recommendation R 1686 was approved by the Member Bodies of the following countries :

Australia	Hungary	Portugal
Austria	India	Romania
Belgium	Iran	South Africa, Rep. of
Brazil	Israel	Spain
Colombia	Italy	Switzerland
Czechoslovakia	Japan	Thailand
Egypt, Arab Rep. of	Netherlands	Turkey
France	New Zealand	United Kingdom
Germany	Peru	U.S.S.R.
Greece	Poland	Yugoslavia

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1686 into an International Standard.

Printed in Switzerland

Sodium and potassium silicates for industrial use — Samples and methods of test — General

1 SCOPE AND FIELD OF APPLICATION

This International Standard provides general descriptions relative to the treatment of samples and to the test methods for potassium and sodium silicates for industrial use.

2 GENERAL

2.1 The methods specified are applicable directly to sodium and potassium silicates in solution or that are soluble in boiling water. In the case of solid chemicals that are not readily soluble in boiling water, a special preliminary solution treatment is necessary, as specified in ISO 2122, *Sodium and potassium silicates for industrial use — Preparation of solution of products not easily soluble in boiling water and determination of matter insoluble in water.*

2.2 If it is proposed to carry out all the standardized tests, it is necessary to have a representative sample of approximately 750 g.

Precautions should be taken in order to avoid absorption of moisture and carbon dioxide by the samples, and it is advisable to store them in sealed containers. In the case of solid chemicals, the lumps, if any, shall be crushed before mixing; precautions should be taken in order to avoid the absorption of moisture and carbon dioxide during crushing.

2.3 It is assumed that, during the analyses, all the volumes are related to or measured at a temperature of approximately 20 °C, that titrations and final reactions of the determinations are also carried out at this temperature and that dilutions are carried out with distilled water or water of equal purity.

2.4 If the determinations require the introduction of reagents, in order to avoid incorrect results use only reagents of analytical reagent grade, free from or containing only a negligible content of the impurity which it is intended to determine.

ANNEX

ISO PUBLICATIONS RELATING TO SODIUM AND POTASSIUM SILICATES FOR INDUSTRIAL USE

ISO 1686 – Samples and methods of test – General.

ISO 1687 – Determination of density at 20 °C of samples in solution – Method using density hydrometer and method using pyknometer.

ISO 1688 – Determination of dry matter – Gravimetric method.

ISO 1689 – Calculation of the ratio $\frac{SiO_2}{Na_2O}$ or $\frac{SiO_2}{K_2O}$.

ISO 1690 – Determination of silica content – Gravimetric method by insolubilization.

ISO 1691 – Determination of carbonate content – Gas-volumetric method.

ISO 1692 – Determination of total alkalinity – Titrimetric method.

ISO 2122 – Preparation of solution of products not easily soluble in boiling water and determination of matter insoluble in water.

ISO 2123 – Determination of dynamic viscosity.

ISO 2124 – Determination of silica content – Titrimetric method.

ISO 3200 – Determination of sulphate content – Barium sulphate gravimetric method.

ISO 3201 – Determination of iron content – 1,10-Phenanthroline photometric method.