
INTERNATIONAL STANDARD



1269

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

**Plastics — PVC resins — Determination of volatile matter
(including water)**

Matières plastiques — Résines de polychlorure de vinyle — Détermination des matières volatiles (y compris l'eau)

First edition — 1975-06-15

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UDC 678.743.22 : 543.71

Ref. No. ISO 1269-1975 (E)

Descriptors : plastics, thermoplastic resins, polyvinyl chloride, chemical analysis, determination of content, volatile matter.

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 61 has reviewed ISO Recommendation R 1269 and found it technically suitable for transformation. International Standard ISO 1269 therefore replaces ISO Recommendation R 1269-1970 to which it is technically identical.

ISO Recommendation R 1269 was approved by the Member Bodies of the following countries :

Austria	India	Romania
Belgium	Iran	South Africa, Rep. of
Bulgaria	Israel	Spain
Canada	Italy	Sweden
Czechoslovakia	Japan	Turkey
Egypt, Arab Rep. of	Korea, Dem.P.Rep. of	United Kingdom
France	Korea, Rep. of	U.S.A.
Germany	Netherlands	Yugoslavia
Greece	New Zealand	
Hungary	Poland	

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

Australia
Switzerland

The Member Body of the following country disapproved the transformation of ISO/R 1269 into an International Standard :

Canada

Plastics – PVC resins – Determination of volatile matter (including water)

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of determining the volatile matter (including water) in PVC resins.

2 PRINCIPLE

Heating at $110 \pm 2^\circ\text{C}$, to constant mass, of a given quantity of resin spread out in a weighing dish of specified dimensions.

3 APPARATUS

3.1 Oven, controlled at $110 \pm 2^\circ\text{C}$, with slight natural draught.

3.2 Weighing dish, shallow, about 80 mm in diameter and 30 mm in height, of glass, aluminium or, preferably, stainless steel, with lid.

3.3 Balance, accurate to 0,000 1 g.

3.4 Desiccator containing a suitable desiccant.

4 PROCEDURE

Weigh the dish (3.2) with its lid to the nearest 0,000 5 g, after heating it in the oven at $110 \pm 2^\circ\text{C}$ for 1 h and cooling it to room temperature in the desiccator (3.4).

Spread evenly over the bottom of the dish a mass m_0 (about 5 g) of resin, replace the lid and weigh to the nearest 0,000 5 g.

Place the assembly in the oven (3.1) at $110 \pm 2^\circ\text{C}$, remove the cover, leave it in the oven and close the oven door.

After 1 h remove the assembly, cool in the desiccator and weigh to the nearest 0,000 5 g. Heat for further half-hour periods until constant mass is obtained, i.e. until successive weighings do not differ by more than 0,000 5 g (the lid must be kept on during transfer and weighing). From this calculate the mass m_1 of the residue.

Carry out two determinations.

Calculate the values of the percentage of volatile matter from the formula in clause 5.

If these two percentages differ by less than 0,10 % in *absolute* value, use them for the calculation.

If not, carry out further determinations until two values satisfying this requirement are obtained.

However, if the two absolute values obtained are each less than 0,30 % – no matter what the difference between them – new determinations are not necessary.

5 EXPRESSION OF RESULTS

For each of the determinations, calculate the percentage of volatile matter (including water) to two decimal places from the formula

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

where

m_0 is the mass, in grams, of the resin before heating;

m_1 is the mass, in grams, of the resin after heating.

Calculate the mean, to two decimal places (to the nearest 0,05), of the two values finally retained.

In the test report, give this mean as the value of the percentage of volatile matter (including water).

NOTE – For ordinary use, for example the designation of a resin, the expression of the result to one decimal place only is generally sufficient.

Co-operative tests have shown reproducibility of $\pm 0,10\%$ between different laboratories.

6 TEST REPORT

The test report shall include the following particulars :

- reference to this International Standard or to an equivalent national standard;
- complete identification of the product tested;
- the result expressed according to clause 5;
- any circumstances which may have affected the result;
- date of test.