

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 599

PLASTICS

DETERMINATION OF THE PERCENTAGE OF EXTRACTABLE MATERIALS IN POLYAMIDES

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R599, *Plastics—Determination of the percentage of extractable materials in polyamides*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the United States of America Standards Institute (USASI).

Work on this question by the Technical Committee began in 1958 and led, in 1961, to the adoption of a Draft ISO Recommendation.

This first Draft ISO Recommendation (No. 512) was circulated in June 1962 to all the ISO Member Bodies for enquiry. As the results of this consultation were not considered satisfactory, the Technical Committee presented a second Draft ISO Recommendation, which was circulated to all the Member Bodies in July 1964 and which was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Austria	Italy	Sweden
Belgium	Japan	Switzerland
Canada	Korea, Rep. of	U.A.R.
Chile	Netherlands	United Kingdom
Czechoslovakia	New Zealand	U.S.A.
Denmark	Poland	U.S.S.R.
Finland	Romania	
Germany	South Africa,	
India	Rep. of	

One Member Body opposed the approval of the Draft:

France

The second Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in August 1967, to accept it as an ISO RECOMMENDATION.

PLASTICS

**DETERMINATION OF THE PERCENTAGE
OF EXTRACTABLE MATERIALS IN POLYAMIDES****1. SCOPE**

1.1 This ISO Recommendation describes methods for the determination of the percentage of extractable materials in polyamides. These materials are for the most part composed of monomer and low molecular mass polymers, and water and possibly additives. Consequently, in order to know the percentage of monomer and low molecular mass polymers, it is necessary to determine the water content of the sample (see ISO Recommendation R ... *). If the additive (for example, a plasticizer) is extractable by the liquid, the method cannot be applied without special procedure agreed between contracting parties.

1.2 Two methods are described:

- Method A, extraction with boiling water for polyamide 6 (polycaprolactam), and
- Method B, extraction with boiling ethanol for other polyamides (66, 610, 11, etc.).

1.3 The calculated percentage may be of importance when evaluating results found with the methods for

- (a) determination of the viscosity number of polyamides in dilute solution (see ISO Recommendation R 307, *Plastics—Determination of the viscosity number of polyamides resins in dilute solution*), and
- (b) determination of the “viscosity ratio” of polyamides in concentrated solution (see ISO Recommendation R 600 *, *Plastics—Determination of the viscosity ratio of polyamides in concentrated solution*).

NOTE.—It should be noted that the extract as determined by method A includes water where as the residue obtained by method B is the dry extract.

* At present Draft ISO Recommendation No. 1004, *Determination of the water content in polyamides*.