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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 120

PLASTICS
DETERMINATION OF FREE AMMONIA AND AMMONIUM COMPOUNDS IN PHENOL-FORMALDEHYDE MOULDINGS

1st EDITION
August 1959

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BRIEF HISTORY

The ISO Recommendation R 120, *Determination of Free Ammonia and Ammonium Compounds in Phenol-Formaldehyde Mouldings*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the American Standards Association, Incorporated (ASA).

At its third meeting, held in Stockholm, in August 1953, the Technical Committee assigned the development of this question to its Working Group No. 5, *Physical Chemical Properties*, under the leadership of the United Kingdom.

The draft formulated by the Working Group was presented to the Technical Committee at its fourth plenary meeting, held at Brighton, in October 1954 and then distributed to the members of the Technical Committee as a draft proposal for an ISO Recommendation.

After its reconsideration at the fifth meeting of ISO/TC 61, held in Paris, in July 1955, the draft proposal was adopted, subject to some amendments, as a Draft ISO Recommendation.

On 25 January 1957, the Draft ISO Recommendation (No. 124) was distributed to all the ISO Member Bodies and was approved, subject to certain amendments, by the following 23 (out of a total of 38) Member Bodies:

Australia	*Hungary	Poland
Austria	India	Romania
Belgium	*Ireland	Spain
*Canada	Japan	Sweden
Czechoslovakia	Mexico	Switzerland
Finland	Netherlands	United Kingdom
France	*New Zealand	U.S.S.R.
*Greece		*Yugoslavia

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in August 1959, to accept it as an ISO RECOMMENDATION.

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* These Member Bodies stated that they had no objection to the Draft being approved.

ISO Recommendation R 120 August 1959

PLASTICS

DETERMINATION OF FREE AMMONIA AND AMMONIUM COMPOUNDS IN PHENOL-FORMALDEHYDE MOULDINGS

1. SCOPE

This method of test gives a semi-quantitative measure of the amount of ammonia in phenol-formaldehyde mouldings by determining the ammonia content of the distillate from a hot aqueous extract of a powdered moulding, the extract having been made alkaline with sodium hydroxide. It is not intended as an absolute measure of the ammonia present. The amount of ammonia in a moulded article may be of importance when corrosion of metal inserts or contamination of foodstuffs has to be considered.

2. APPARATUS

The apparatus consists of the following:

(*a*) Means for reducing the mouldings to a powder,
(*b*) Sieve with apertures of 0.2 to 0.3 mm,*
(*c*) Balance to weigh to 0.01 g,
(*d*) 250 ml glass-stoppered flask,
(*e*) 10 ml pipette,
(*f*) 250 ml distillation flask and condenser,
(*g*) 50 ml Nessler tubes.

3. REAGENTS

The following reagents are required:

(1) Ammonia-free distilled water,
(2) Potassium permanganate,
(3) 2 per cent sodium hydroxide solution,
(4) Nessler reagent.

4. PREPARATION OF SAMPLE

A sample of the moulded material is reduced to a powder by any convenient means, care being taken to avoid overheating. The portion that will pass through a sieve with apertures of 0.2 to 0.3 mm is used for test and should be kept in a tightly stoppered flask until required. It is important that the extraction with water be begun within one hour of grinding the moulding.

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* Standardization of sieve openings is now under study by Technical Committee ISO/TC 24, *Sieves*. If the values specified for sieve openings in the present ISO Recommendation are not included in the ISO Recommendation which will have been drawn up for sieve openings, Technical Committee ISO/TC 61, *Plastics*, will reconsider the present specification.

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