

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1392

DETERMINATION OF CRYSTALLIZING POINT
GENERAL METHOD

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1392, *Determination of crystallizing point – General method*, was drawn up by Technical Committee ISO/TC 47, *Chemistry*, the Secretariat of which is held by the Ente Nazionale Italiano di Unificazione (UNI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1392 which was circulated to all the ISO Member Bodies for enquiry in June 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Iran	South Africa, Rep. of
Belgium	Israel	Spain
Chile	Italy	Switzerland
Czechoslovakia	Netherlands	Thailand
France	New Zealand	Turkey
Germany	Peru	U.A.R.
Hungary	Portugal	United Kingdom
India	Romania	U.S.S.R.

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in April 1970, to accept it as an ISO RECOMMENDATION.

DETERMINATION OF CRYSTALLIZING POINT

GENERAL METHOD

1. SCOPE

This ISO Recommendation describes a general method for the determination of crystallizing points in the range from about -50°C to about $+250^{\circ}\text{C}$.

The crystallizing point can be determined directly on the sample as received, or on the dried sample, or on both. In which of these conditions the sample is to be tested and, if the determination is to be made with the dried sample, what method of drying is to be used, will be stated in the specific test method for each material.

2. PRINCIPLE

Cooling the liquid or liquefied sample, and determination of the crystallizing point by observation of the temperature during crystallization under defined conditions.

3. REAGENTS

3.1 *Solid carbon dioxide.*

3.2 *Acetone.*

3.3 *Ice.*

3.4 *Calcium sulphate, dried at 170°C .*

Dry the calcium sulphate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) for 24 hours at 170°C and then store it in an airtight container.

4. APPARATUS

Ordinary laboratory apparatus and the apparatus shown in Figures 1, 2, 3 and 4 comprising :

4.1 *Crystallizing tube*

External diameter : 25 mm (approximately)
Length : 150 mm (approximately)

4.2 *Outer protection tube*

Internal diameter : 28 mm (approximately)
Length : 120 mm (approximately)
Wall thickness : 2 mm (approximately)

4.3 *Stirrer*, of glass or stainless steel, with a loop approximately 20 mm in diameter; it may be operated by hand or mechanically, to provide approximately one 30 mm stroke per second.