
INTERNATIONAL STANDARD



3137

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Anhydrous hydrogen fluoride for industrial use — Sampling

Fluorure d'hydrogène anhydre à usage industriel — Échantillonnage

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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.

International Standard ISO 3137 was drawn up by Technical Committee ISO/TC 47, *Chemistry*, and circulated to the Member Bodies in June 1973.

It has been approved by the Member Bodies of the following countries :

Austria	India	South Africa, Rep. of
Belgium	Israel	Spain
Bulgaria	Italy	Switzerland
Czechoslovakia	Netherlands	Thailand
Egypt, Arab Rep. of	New Zealand	Turkey
France	Poland	United Kingdom
Germany	Portugal	U.S.S.R.
Hungary	Romania	

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

No Member Body expressed disapproval of the document.

Anhydrous hydrogen fluoride for industrial use — Sampling

WARNING — Anhydrous hydrogen fluoride is a highly corrosive liquid which boils at 19,5 °C. It attacks glass, has a great affinity for water and its vapour is irritant and toxic. Its action on the skin and eyes is strongly corrosive, producing severe and painful burns which may not be immediately evident and which respond slowly to treatment.

Samples should be handled only inside a well-ventilated fume cupboard. Rubber gloves, boots and gown of a suitable size to give adequate protection to the individual, and full head and face protection must be worn when handling the material.

In the event of contact or suspected contact, flood with water and seek immediate medical attention. The manufacturers' literature should be consulted for further information.

SECTION ONE — LABORATORY SAMPLE

1 SCOPE

Section one of this International Standard specifies a method for taking laboratory samples of anhydrous hydrogen fluoride, intended for the determination of the water content and the preparation of the test sample for other determinations.

2 FIELD OF APPLICATION

This method is applicable to the sampling of anhydrous hydrogen fluoride from road and rail tanks, drums and cylinders.

3 PRINCIPLE

Allowing the liquid from the bulk container to flow into a cooled evacuated stainless steel cylinder or cylinders of not less than 1 kg total capacity.

4 APPARATUS

The apparatus for sampling is shown in figure 1 and comprises :

4.1 Stainless steel cylinder, A, capable of holding at least 1 kg of sample (see also figure 2). Alternatively, several smaller cylinders of total capacity not less than 1 kg may be connected in series.

4.2 Stainless steel coupling tube, B, equipped at either end with stainless steel unions threaded at one end to fit into the valve E of the container holding the anhydrous hydrogen fluoride and at the other end to fit one of the screw threads of the transverse passage F of the cylinder.

4.3 Stainless steel valve, C, fitting to the other screw thread of the transverse passage of the cylinder.

4.4 Stainless steel tube, D, connecting the valve to the extraction system.

4.5 Screw caps, for closing the ends of the transverse passage.

4.6 Vacuum pump, capable of producing rapidly a pressure of about 0,6 kPa inside the cylinder.

5 PROCEDURE

5.1 Preparation of sample cylinder

5.1.1 Cleaning and drying

Close one end of the transverse passage F with its screw cap and connect the other end to the extraction system using the tube D. Open the valve of the cylinder to allow any residual anhydrous hydrogen fluoride in the cylinder to be extracted.

After allowing a sufficient length of time to permit complete extraction of the hydrogen fluoride, close the valve of the cylinder.

Remove the screw cap and tube to the extraction system and wash the ends of the transverse passage thoroughly with water. Open the valve G of the cylinder so that water can flow into it.

Remove and empty the cylinder, wash all parts with an excess of water and dry them for 8 to 12 h in an oven at 110 °C. Store this cylinder in the oven until required.