



Manganese ores — Determination of barium oxide content — Barium sulphate gravimetric method

Minerais de manganèse — Dosage de l'oxyde de baryum — Méthode gravimétrique à l'état de sulfate de baryum

Second edition — 1981-11-15

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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 548 was developed by Technical Committee ISO/TC 65, *Manganese and chromium ores*.

This second edition was submitted directly to the ISO Council, in accordance with clause 5.10.1 of part 1 of the Directives for the technical work of ISO. It cancels and replaces the first edition (i.e. ISO 548-1975), which had been approved by the member bodies of the following countries :

Australia	Hungary	Romania
Austria	India	South Africa, Rep. of
Chile	Iran	Spain
Czechoslovakia	Ireland	United Kingdom
Egypt, Arab Rep. of	Italy	USSR
France	Japan	Yugoslavia
Germany, F. R.	Poland	

No member body had expressed disapproval of the document.

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1 Scope and field of application

This International Standard specifies a barium sulphate gravimetric method for the determination of the barium oxide content of manganese ores.

This International Standard should be read in conjunction with ISO 4297.

2 References

ISO 4296/1, *Manganese ores — Sampling — Part 1: Increment sampling*.¹⁾

ISO 4296/2, *Manganese ores — Sampling — Part 2: Preparation of samples*.¹⁾

ISO 4297, *Manganese ores and concentrates — Methods of chemical analysis — General instructions*.

3 Principle

Fusion of a test portion with sodium potassium carbonate; extraction of the fusion in water, filtering and dissolution of the barium carbonate in hydrochloric acid. Separation of the silicic acid, and precipitation of barium as barium sulphate, with a small quantity of sulphuric acid in weak hydrochloric acid solution. Filtration, ignition and weighing of the residue of barium sulphate.

4 Reagents

4.1 Sodium potassium carbonate, anhydrous.

4.2 Sodium carbonate (Na_2CO_3).

4.3 Hydrochloric acid, ρ 1,19 g/ml.

4.4 Hydrochloric acid, diluted 1 + 3.

4.5 Hydrochloric acid, diluted 1 + 100.

4.6 Sulphuric acid, ρ 1,84 g/ml.

4.7 Sulphuric acid, diluted 1 + 4.

4.8 Sulphuric acid, diluted 1 + 1 000.

4.9 Hydrofluoric acid, 40 % (m/m).

4.10 Hydrogen peroxide, 30 % (perhydrol).

4.11 Ammonium acetate, 600 g/l solution.

4.12 Sodium carbonate, 10 g/l solution.

4.13 Silver nitrate, 2 g/l solution.

5 Apparatus

Ordinary laboratory apparatus and

5.1 Platinum crucibles.

6 Sample

For increment sampling of manganese ores, see ISO 4296/1. For the preparation of the samples, see ISO 4296/2.

Use a test sample which has been crushed to a size not exceeding 100 μm (checked on a sieve of appropriate size) and air-dried under laboratory conditions.

7 Procedure

7.1 Test portion

Weigh 1 to 2 g of the test sample into a platinum crucible (5.1).

¹⁾ At present at the stage of draft.