



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 6730.31-2017

Replacing GB/T 6730.31-1986

**Iron ores -- Determination of vanadium --
N-benzoyl-N-phenylhydroxylamine extraction
spectrophotometric method**

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Foreword

GB/T 6730 "iron ore" is divided into dozens of sections.

This section GB/T 6730 Part 31.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section instead of GB/T 6730.31-1986 "chemical analysis of iron ores - N-benzoylbenzene extraction photometric method for the determination of vanadium", the Part and GB/T 6730.31-1986 compared to the main technical changes are as follows.

- Standard name was changed to "Determination of vanadium content of iron ore N-benzoylbenzene extraction spectrophotometry";
- The measuring range is expanded from "0.025% ~ 0.300%" to "0.005% ~ 0.5%";
- The dissolution of the sample is changed from "alkali fusion" to "alkali melting followed by acid dissolution";
- Added "warning" "normative references" and "test report" Chapter and content, the original title and serial number of the article made the corresponding adjustments;
- "Acceptance of analytical value" changed to "result calculation and its representation", the content has been modified accordingly.

This section uses the redrafted law to amend the use of ISO 9683-1.2006 "Determination of vanadium content of iron ore Part 1. BPHA points

Photometry (English version). This section compared with ISO 9683-1.2006, the structure changes as follows.

--- Adjust the fourth chapter reagent serial number.

This section compared with ISO 9683-1.2006, the main technical differences and the reasons are as follows.

--- "Normative references" were used without reference to the date of our standard GB/T 6682, GB/T 6730.1,

GB/T 10322.1, GB/T 12806 instead of the corresponding undated reference to international standards ISO 3696, ISO 7764,

ISO 3082, ISO 1042, deleted ISO 648, and added GB/T 8170, GB/T 12808;

--- "Calculation of the final result" in the revised value of the revised content consistent with the provisions of GB/T 8170's.

This section also made the following editorial changes.

--- Standard name was changed to "Determination of vanadium content of iron ore N-benzoylbenzene extraction spectrophotometry."

This part is proposed by China Iron and Steel Association.

This part of the National Iron Ore and Direct Reduced Iron Standardization Technical Committee (SAC/TC317) centralized.

This part of the drafting unit. Ningbo Inspection and Quarantine Science and Technology Research Institute, Anshan Iron and Steel Group Mining Co., Ltd., Metallurgical Industry Information Standards

Institute.

1 Scope

GB/T 6730 provisions of this part of the N-benzoylbenzene (BPHA) extraction spectrophotometric determination of vanadium content.

This section applies to natural iron ore, iron ore and building blocks, including sintered products. Determination of the range (mass fraction) .0.0050% ~

0.50%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6682 analytical laboratory water specifications and test methods (GB/T 6682-2008, ISO 3696.1987, MOD)

GB/T 6730.1 Preparation of pre-dried samples for iron ore analysis (GB/T 6730.1-2016, ISO 7764.2006, MOD)

GB/T 8170 rounded repair rules and limit values of the representation and judgment

GB/T 10322.1 Iron ore sampling and sample preparation methods (GB/T 10322.1-2014, ISO 3082.2009, IDT)

GB/T 12806 laboratory glassware single standard line volumetric flask (GB/T 12806-2011, ISO 1042.1998, NEQ)

GB/T 12808 laboratory glassware single standard pipette

3 method principle

The sample was melted and decomposed with sodium peroxide and leached with water and sulfuric acid. Dispensing liquid was added phosphoric acid and potassium permanganate, vanadium oxidation into the pentavalent state.

Excess potassium permanganate is reduced with sodium nitrite in the presence of urea. In hydrochloric acid medium, pentavalent vanadium forms a complex with BPHA using trichloride

Methane extraction. Absorbance was measured at a wavelength of about 535 nm using a spectrophotometer.

4 reagent

Unless otherwise indicated in the analysis, the use of analytical reagents only and in line with GB/T 6682 secondary distilled water or its purity equivalent

Water.