# INTERNATIONAL STANDARD

ISO 9683-2

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# Iron ores — Determination of vanadium —

Part 2:

Flame atomic absorption spectrometric methods

Minerais de fer — Dosage du vanadium —

Partie 2: Méthodes par spectrométrie d'absorption atomique dans la flamme

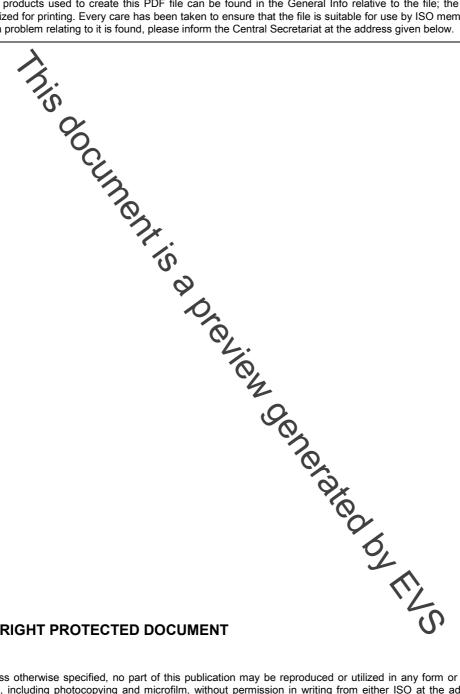


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### **Foreword**

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The main task of technical confirmtees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires applying by at least 75 % of the member bodies casting a vote.

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Part 1: BPHA spectrophotometric method

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ISO 9683 consists of the following parts, under the general title *Iron ores* — *Determination of vanadium*:

# Iron ores — Determination of vanadium —

## Part 2:

# Flame atomic absorption spectrometric methods

WARNING — This part of ISO 9683 may involve hazardous materials, operations and equipment. This part of ISO 9683 does not purport to address all of the safety issues associated with its use. It is the responsibility of the user to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

### 1 Scope

This part of ISO 9683 specifies two tame atomic absorption spectrometric methods for the determination of the mass fraction of vanadium in iron ores.

Method 1 is applicable to mass fractions of vanadium between 0.004% and 0.06%, and Method 2 is applicable to mass fractions of vanadium between 0.06% and 0.5%, in natural iron ores, iron ore concentrates and agglomerates, including sinter products.

#### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated efferences, the latest edition of the referenced document (including any amendments) applies.

ISO 648, Laboratory glassware — Single-volume pipettes

ISO 1042, Laboratory glassware — One-mark volumetric flasks

ISO 3082, Iron ores — Sampling and sample preparation procedures

ISO 7764, Iron ores — Preparation of predried test samples for chemical analysis

### 3 Principle

#### 3.1 Dissolution

The test portion is decomposed by digestion with hydrochloric acid in a polytetrafluoroethylene (PTFE) beaker, hydrofluoric and nitric acids are added and the solution is evaporated to dryness. Hydrochloric and boric acids are added and the solution is again evaporated to dryness. The salts are dissolved in hydrochloric and nitric acids (Method 1), or hydrochloric acid (Method 2), and the solution is filtered. The residue is ignited and fused with sodium carbonate and the cooled melt is dissolved in the test solution.

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