
**Chemical analysis of magnesite and
dolomite refractory products (alternative
to the X-ray fluorescence method) —**

Part 3:

**Flame atomic absorption
spectrophotometry (FAAS) and
inductively coupled plasma atomic
emission spectrometry (ICP-AES)**

*Analyse chimique des produits de magnésite et de dolomie (méthode
alternative à la méthode par fluorescence de rayons X) —*

*Partie 3: Méthodes par spectrométrie d'absorption atomique dans la
flamme (FAAS) et spectrométrie d'émission atomique avec plasma
induit par haute fréquence (ICP-AES)*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees 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 approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10058-3 was prepared by Technical Committee ISO/TC 33, *Refractories*.

This first edition of ISO 10058-3, together with ISO 10058-1 and ISO 10058-2, cancels and replaces ISO 10058:1992 which has been technically revised to include the increasing use of flame atomic absorption spectrophotometry (FAAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES) methods as well as some improvements in the wet chemical analyses procedures developed in Japan.

ISO 10058 consists of the following parts, under the general title *Chemical analysis of magnesite and dolomite refractory products (alternative to the X-ray fluorescence method)*:

- *Part 1: Apparatus, reagents, dissolution and determination of gravimetric silica*
- *Part 2: Wet chemical analysis*
- *Part 3: Flame atomic absorption spectrophotometry (FAAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES)*

Chemical analysis of magnesite and dolomite refractory products (alternative to the X-ray fluorescence method) —

Part 3:

Flame atomic absorption spectrophotometry (FAAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES)

1 Scope

This part of ISO 10058 specifies atomic absorption spectrometry (AAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES) methods for the chemical analysis of magnesite and dolomite refractory products and raw materials.

It is applicable to components within the ranges of determination given in Table 1.

Table 1 — Range of determination (percentage by mass)

Component	Range	Component	Range
SiO ₂	0,1 to 10	Na ₂ O	0,01 to 1
Al ₂ O ₃	0,05 to 10	K ₂ O	0,01 to 1
Fe ₂ O ₃	0,01 to 10	Cr ₂ O ₃	0,01 to 3
TiO ₂	0,01 to 1	ZnO	0,01 to 1
MnO	0,01 to 1	P ₂ O ₅	0,01 to 5
CaO	0,01 to 10	—	—
LOI	0,01 to 60	—	—

NOTE These values are after the loss on ignition (LOI) has been taken into account.

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 references, the latest edition of the referenced document (including any amendments) applies.

ISO 10058-1:2008, *Chemical analysis of magnesite and dolomite refractory products (alternative to the X-ray fluorescence method) — Part 1: Apparatus, reagents, dissolution and gravimetric silica*

ISO 26845, *Chemical analysis of refractories — General requirements for wet chemical analysis, atomic absorption spectrometry (AAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES) methods*