
**Magnesium and magnesium alloys —
Determination of mercury**

Magnésium et alliages de magnésium — Dosage du mercure





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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification of methods for determination	1
5 Sampling, storing and weighing of analytical samples	2
5.1 Sampling.....	2
5.2 Storing of analytical sample.....	2
5.3 Weighing of the analytical sample.....	2
6 Apparatus	2
7 ICP mass spectrometric analysis (Method A)	3
7.1 Summary.....	3
7.2 Reagents.....	3
7.3 Amount of sample to be weighed out.....	4
7.4 Operation.....	4
7.5 Blank test.....	4
7.6 Preparation of the working curve.....	5
7.7 Calculation.....	5
7.8 Reporting analytical data.....	5
8 Atomic absorption spectrometric analysis (Method B)	5
8.1 Summary.....	5
8.2 Reagents.....	6
8.3 Amount of sample to be weighed out.....	6
8.4 Apparatus and implements.....	7
8.5 Operation.....	8
8.5.1 Preparation of the sample solution.....	8
8.5.2 Measurement of absorbance.....	9
8.6 Operation blank test.....	9
8.7 Preparation of the working curve.....	9
8.8 Calculation.....	9
8.9 Reporting analytical data.....	10
Bibliography	11

Foreword

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This document was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 5, *Magnesium and alloys of cast or wrought magnesium*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Magnesium is the lightest of all the common metals and has been prepared for industry use as metal ingots and alloys since these have the best strength-to-weight ratio of any of the commonly used structural alloys. Chemical compositions of magnesium and its alloys are widely standardized from major to trace quantities. Mercury has generally been a non-analysing element to monitor because it seems to be volatilized on heating due to its low boiling point. Thus, mercury has not been prescribed solely in standards, but has been included as impurities in standards. ISO 8287 for unalloyed magnesium specifies that the sum of hazardous elements, including mercury, in all materials should be less than 0,01 % mass fraction. ISO 16220 for magnesium alloy ingots and casting denotes the impure elements should not be less than 0,01 % separately.

However, there exists no standardized analytical methods for determination of mercury in magnesium and magnesium alloys. Moreover, a new global mercury treaty called the Minamata Convention that came into effect in 2020, which regulates and controls mercury globally, has encouraged the development of the analysis of mercury on some trading materials and products.

This document specifies the methods for determination of trace levels of mercury in magnesium and magnesium alloys.

