
INTERNATIONAL STANDARD



4047

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Leather — Determination of sulphated total ash and sulphated water-insoluble ash

Cuir — Dosage des cendres sulfatées totales et des cendres sulfatées insolubles dans l'eau

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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 4047 was developed by Technical Committee ISO/TC 120, *Leather*, and was circulated to the member bodies in July 1976.

It has been approved by the member bodies of the following countries :

Australia	Hungary	Poland
Brazil	India	Romania
Canada	Iran	South Africa, Rep. of
Chile	Israel	Turkey
Czechoslovakia	Italy	United Kingdom
Egypt, Arab Rep. of	Mexico	Yugoslavia
France	Netherlands	
Germany	New Zealand	

No member body expressed disapproval of the document.

This International Standard is based on method IUC/7 of the International Union of Leather Technologists' and Chemists' Societies.

Leather — Determination of sulphated total ash and sulphated water-insoluble ash

0 INTRODUCTION

The amount of mineral substances found by ashing leather may differ from the actual content owing to decomposition, reduction, or the escape by volatilization of certain salts. By treating the ash with sulphuric acid, the salts and oxides are converted into sulphates, but some salts will again be transformed into oxides at the selected temperature of ignition.

To determine the total mineral content, for example within the framework of a complete leather analysis, the water-soluble and water-insoluble inorganic substances can be ascertained by calculation or determined separately.

Ammonium salts are not determined by this method (compare with ISO 4098).

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the sulphated total ash and the sulphated water-insoluble ash of leather.

The method is applicable to all types of leather.

The determination may be inaccurate by the extent to which the leather contains organo-metallic compounds, for example silicone (see note 1 in 8.1).

2 REFERENCES

ISO 2418, *Leather — Laboratory samples — Location and identification*.

ISO 2588, *Leather — Sampling — Number of items for a gross sample*.

ISO 4044, *Leather — Preparation of chemical test samples*.¹⁾

ISO 4098, *Leather — Determination of water-soluble matter, water-soluble inorganic matter and water-soluble organic matter*.¹⁾

3 DEFINITIONS

For the purposes of this International Standard, the following definitions apply :

3.1 sulphated total ash : The residue obtained from carbonized leather at 800 °C after sulphating the ash under the specified conditions.

3.2 sulphated water-insoluble ash : The residue obtained when leather, previously extracted with water as specified in ISO 4098, is carbonized after sulphating the ash under the specified conditions.

4 PRINCIPLE

Carbonization of the leather followed by treatment with sulphuric acid and ashing in an open crucible.

5 REAGENTS

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

5.1 Sulphuric acid, approximately 2 N solution.

5.2 Ammonium nitrate, approximately 100 g/l solution.

6 APPARATUS

Ordinary laboratory apparatus and in particular

6.1 Crucibles and dishes of glazed porcelain, platinum or quartz.

6.2 Muffle furnace, capable of being maintained at a temperature close to, but not exceeding, 800 °C (see note 4 in 8.1).

1) At present at the stage of draft.