



**International
Standard**

**ISO
23649**

**IULTCS
IUC 444**

**Chemicals for the leather tanning
industry — Determination of
cyclosiloxanes**

*Produits chimiques pour l'industrie du tannage du cuir —
Détermination des cyclosiloxanes*

**First edition
2025-02**

*iteh Standards
(<https://standards.iteh.ai>)
Document Preview*

[ISO 23649:2025](https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025)

<https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025>

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 23649:2025](https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025)

<https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Published in Switzerland

Contents

	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Principle.....	1
5 Apparatus.....	1
6 Reagents.....	2
7 Sampling and sample preparation.....	3
8 Procedure.....	3
8.1 Sample solution preparation.....	3
8.2 Liquid-liquid extraction.....	3
8.3 Instrumental analysis.....	4
9 Expression of results.....	4
10 Precision.....	4
11 Test report.....	4
Annex A (informative) Chromatographic analysis operating parameters for GC-MS.....	6
Annex B (informative) Precision: reliability of the method.....	7
Annex C (normative) Sample preparation for non-water-soluble chemicals.....	8
Bibliography.....	9

[ISO 23649:2025](https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025)

<https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025>

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

IULTCS, originally formed in 1897, is a world-wide organization of professional leather societies to further the advancement of leather science and technology. IULTCS has three Commissions, which are responsible for establishing international methods for the sampling and testing of leather. ISO recognizes IULTCS as an international standardizing body for the preparation of test methods for leather.

This document was prepared by the Chemical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUC Commission, IULTCS), in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, Leather, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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

This document includes a procedure for analysing certain cyclosiloxanes using gas chromatography (GC) with mass spectrometer (MS) equipment. With this analytical method octamethylcyclotetrasiloxane (D4), decamethylcyclopentasiloxane (D5) and dodecamethylcyclohexasiloxane (D6) can be determined.

In the leather industry cyclosiloxanes (D4), (D5) and (D6) are used in the manufacture of silicone-based waterproofing fatliquors and can also be used in the production of silicone-based finishing chemicals especially as handle modifiers.

At present, the official classification recognised in the EU is the following.

- Octamethylcyclotetrasiloxane (D4) is classified as persistent, bioaccumulative and toxic.^[1]
- Decamethylcyclopentasiloxane (D5) is classified as persistent, bioaccumulative and toxic.^[2]
- Dodecamethylcyclohexasiloxane (D6) is classified as persistent, bioaccumulative and toxic.^[3]

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 23649:2025](https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025)

<https://standards.iteh.ai/catalog/standards/iso/24abdd5c-c874-4326-ac7f-e6281b4f2a87/iso-23649-2025>

