
**Water quality — Determination of
cyclic volatile methylsiloxanes in
water —**

**Part 1:
Method using purge and trap
with gas chromatography-mass
spectrometry (GC-MS)**

*Qualité de l'eau — Détermination des méthylsiloxanes cycliques
volatiles dans l'eau —*

*Partie 1: Méthode par dégazage et piégeage avec chromatographie en
phase gazeuse-spectrométrie de mass (GC-MS)*



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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.

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Water quality — Determination of cyclic volatile methylsiloxanes in water —

Part 1:

Method using purge and trap with gas chromatography-mass spectrometry (GC-MS)

WARNING — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices.

IMPORTANT — It is absolutely essential that tests conducted in accordance with this document be carried out by suitably qualified staff.

1 Scope

This document specifies a method for the quantitative determination of selected cyclic volatile methylsiloxanes (cVMS) in non-filtered water samples by purge and trap extraction with isotope dilution gas chromatography-mass spectrometry (GC-MS).

This method is applicable to the determination of individual cVMS, including:

- octamethylcyclotetrasiloxane (D4);
- decamethylcyclopentasiloxane (D5);
- dodecamethylcyclohexasiloxane (D6);

in surface water, ground water, and wastewater. It can be applied to samples within the concentration range of 0,01 µg/l to 1 µg/l of each of the target compounds. Depending on the matrix, the method may also be applicable to higher concentrations ranging from 1 µg/l to 100 µg/l after suitable dilution of the sample or reduction in sample size.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 4793, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation*

ISO 5667-4, *Water quality — Sampling — Part 4: Guidance on sampling from lakes, natural and man-made*

ISO 5667-6, *Water quality — Sampling — Part 6: Guidance on sampling of rivers and streams*

ISO 5667-10, *Water quality — Sampling — Part 10: Guidance on sampling of waste waters*

ISO 5667-11, *Water quality — Sampling — Part 11: Guidance on sampling of groundwaters*

ISO 8466-1, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*