

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Mineral oil-filled electrical equipment in service – Guidance on the interpretation of dissolved and free gases analysis

Matériels électriques remplis d'huile minérale en service – Lignes directrices pour l'interprétation de l'analyse des gaz dissous et des gaz libres



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MINERAL OIL-FILLED ELECTRICAL EQUIPMENT
IN SERVICE – GUIDANCE ON THE INTERPRETATION
OF DISSOLVED AND FREE GASES ANALYSIS**

FOREWORD

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International Standard IEC 60599 has been prepared by IEC technical committee 10: Fluids for electrotechnical applications.

This third edition cancels and replaces the second edition published in 1999 and Amendment 1:2007. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) revision of 5.5, 6.1, 7, 8, 9, 10, A.2.6, A.3, A.7;
- b) addition of new sub-clause 4.3;
- c) expansion of the Bibliography;
- d) revision of Figure 1;
- e) addition of Figure B.4.

The text of this standard is based on the following documents:

FDIS	Report on voting
10/967/FDIS	10/973/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Dissolved and free gas analysis (DGA) is one of the most widely used diagnostic tools for detecting and evaluating faults in electrical equipment filled with insulating liquid. However, interpretation of DGA results is often complex and should always be done with care, involving experienced insulation maintenance personnel.

This International Standard gives information for facilitating this interpretation. The first edition, published in 1978, has served the industry well, but had its limitations, such as the absence of a diagnosis in some cases, the absence of concentration levels and the fact that it was based mainly on experience gained from power transformers. The second edition attempted to address some of these shortcomings. Interpretation schemes were based on observations made after inspection of a large number of faulty oil-filled equipment in service and concentrations levels deduced from analyses collected worldwide.

Withdrawn