

Australian Standard™

Insulating liquids

Part 2: Test methods

Method 2.7: Determination of PCB contamination in insulating liquids by capillary column gas chromatography—Identification of congeners

[IEC title: Insulating liquids—Contamination by polychlorinated biphenyls (PCBs)—Method of determination by capillary column gas chromatography]

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Part 2: Test methods **Method 2.7: Determination of** **PCB contamination in insulating** **liquids by capillary column gas** **chromatography—Identification** **of congeners**

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PREFACE

This Standard was prepared by the Standards Australia Committee EL/8, Power Transformers.

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AUSTRALIAN STANDARD

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Method 2.7: Determination of PCB contamination in insulating liquids by capillary column gas chromatography—Identification of congeners

1 Scope and object

This International Standard specifies a method for the determination of polychlorinated biphenyl (PCB) concentration in non-halogenated insulating liquids by high-resolution capillary column gas chromatography using an electron capture detector (ECD).

The method gives the total PCB content and is especially useful when a detailed analysis of PCB congeners is necessary. Other methods, such as IEC 60997, may be used when a less detailed analysis is acceptable.

The method is applicable to unused, reclaimed (including dechlorinated and chemically and/or physically treated), or used insulating liquids contaminated by PCBs.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this normative document. At the time of publication, the edition indicated was valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative document indicated below. Members of IEC and ISO maintain registers of current valid International Standards.

IEC 60475: 1974, *Method of sampling liquid dielectrics*

3 Definitions

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

3.1 Polychlorinated biphenyl (PCB)

A biphenyl substituted by one to ten chlorine atoms.

NOTE – For legal purposes, congeners with one, two or ten chlorine atoms may be excluded from this definition.

3.2 Congener

All the chlorine derivatives of biphenyl, irrespective of the number of chlorine atoms, are termed congeners.

NOTE – There are 209 possible PCB congeners. These are listed in table B.1. The congener numbers (IUPAC)* are for easy identification; they do not represent the order of chromatographic elution.

* International Union of Pure and Applied Chemistry.