

Petroleum products and lubricants — Triaryl phosphate ester turbine control fluids (category ISO-L- TCD) — Specifications

The European Standard EN 61221:2004 has the status of a
British Standard

ICS 29.120; 75.120

National foreword

This British Standard is the official English language version of EN 61221:2004. It is identical with IEC 61221:2004. It supersedes BS EN 61221:1996 which will be withdrawn on 2007-09-01.

The UK participation in its preparation was entrusted to Technical Committee GEL/10, Fluids for electrotechnical applications, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 8, an inside back cover and a back cover.

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Amendments issued since publication

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English version

**Petroleum products and lubricants –
Triaryl phosphate ester turbine control fluids (category ISO-L-TCD) -
Specifications
(IEC 61221:2004)**

Produits pétroliers et lubrifiants –
Fluides de régulation de turbines à base
d'esters de triarylphosphate
(catégorie ISO-L-TCD) –
Spécifications
(CEI 61221:2004)

Mineralölerzeugnisse und Schmiermittel -
Triaryl-Phosphatester-Turbinen-
Steuerflüssigkeiten
(Kategorie ISO-L-TCD) –
Anforderungen
(IEC 61221:2004)

This European Standard was approved by CENELEC on 2004-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 10/583/FDIS, future edition 2 of IEC 61221, prepared by IEC TC 10, Fluids for electrotechnical applications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61221 on 2004-09-01.

This European Standard supersedes EN 61221:1995.

The main changes with respect to EN 61221:1995 include:

- a) introduction of new tests to define fire resistance, namely the Manifold Ignition and Wick flame persistence tests;
- b) flame persistence tests;
- c) introduction of a pour point requirement;
- d) a change to the Sequence II foaming requirement;
- e) introduction of a cleanliness requirement;
- f) introduction of an elastomer compatibility requirement;
- g) use of ISO test methods equivalent to the original DIN tests.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2005-06-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2007-09-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61221:2004 was approved by CENELEC as a European Standard without any modification.

PETROLEUM PRODUCTS AND LUBRICANTS – TRIARYL PHOSPHATE ESTER TURBINE CONTROL FLUIDS (CATEGORY ISO-L-TCD) – SPECIFICATIONS

1 Scope

This International Standard specifies the characteristics of unused triaryl phosphate ester fluids for turbine governor controls and other hydraulic systems in electrical power stations.

Fluids used in this application are classified under category TCD of ISO 6743-5.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60247, *Insulating liquids – Measurement of relative permittivity, dielectric dissipation factor (factor $\tan \delta$) and d.c. resistivity*

IEC 60978, *Maintenance and use guide for triaryl phosphate ester turbine control fluids*

ISO 760, *Determination of water – Karl Fischer method (General method)*

ISO 2592, *Determination of flash and fire points – Cleveland open cup method*

ISO 3016, *Petroleum products – Determination of pour point*

ISO 3104, *Petroleum products – Transparent and opaque liquids – Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 3170, *Petroleum liquids – Manual sampling*

ISO 3448, *Industrial liquid lubricants – ISO viscosity classification*

ISO 3675, *Crude petroleum and liquid petroleum products – Laboratory determination of density – Hydrometer method*

ISO 4259 *Petroleum products – Determination and application of precision data in relation to methods of test*

ISO 4406, *Hydraulic fluid power – Fluids – Method for coding the level of contamination by solid particles*