BS ISO 11365:2017

BSI Standards Publication

Petroleum and related products — Requirements and guidance for the maintenance of triaryl phosphate ester turbine control fluids

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National foreword

This British Standard is the UK implementation of ISO 11365:2017. It supersedes DD ISO/TS 11365:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MCE/18/-/16, Hydraulic fluids.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Petroleum and related products — Requirements and guidance for the maintenance of triaryl phosphate ester turbine control fluids

Pétrole et produits connexes — Exigences et recommandations pour la maintenance des fluides de régulation de turbines à base d'esters phosphates de triaryle

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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.

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html

This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*, Sub-committee SC 4, *Classifications and specifications*.

This first edition of ISO 11365 cancels and replaces ISO/TS 11365:2011.

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Introduction

Many turbine manufacturers or electrical power utilities have standardized requirements for the maintenance of triaryl phosphate ester hydraulic control fluids in service. A comparison of these requirements has made it possible to develop this document. However, the recommendations given in this document are for guidance and should not be considered as absolute. When interpreting results and deciding action, account has to be taken of various factors such as the conditions of use, the type of equipment, and the general trend in fluid characteristics.

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WARNING — The use of this document may involve hazardous materials, operations and equipment. This document does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practice and determine the applicability of regulatory limitations prior to use.

1 Scope

This document is applicable to the use of triaryl phosphate esters as fire-resistant fluids for turbine control and other hydraulic systems in power generation. These fluids fall under category HFDR of ISO 6743-4[1].

This document is intended to:

— assist the power equipment operator to maintain the fluid in a condition that will ensure the safe and reliable operation of the turbine while maximizing fluid life;

— recommend procedures for examining consignments of new fluid and monitoring the fluid in use;

— provide information on the safe handling, storage and disposal of the fluid;

— offer background information on the causes of fluid degradation.

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 3170, *Petroleum liquids — Manual sampling*

ISO 3722, *Hydraulic fluid power — Fluid sample containers — Qualifying and controlling cleaning methods*

ISO 4021, *Hydraulic fluid power — Particulate contamination analysis — Extraction of fluid samples from lines of an operating system*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Description of triaryl phosphate ester fluids

Triaryl phosphates are complex mixtures of products produced from the reaction of phosphorus oxychloride with substituted phenols, for example xylenol or tertiarybutylphenol, and have been used as fire-resistant fluids in power generation applications for over 55 years. While the early fluids were

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