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TECHNICAL REPORT

Test method development – Guidelines for substance selection

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC TR 62936, which is a Technical Report, has been prepared by IEC technical committee 111: Environmental standardization for electrical and electronic products and systems.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
111/410A/DTR	111/441/RVC

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

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

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

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- withdrawn,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

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

The large number of chemical substances currently regulated or under consideration for regulation necessitates the need for the development of reliable and acceptable test methods to be used as one approach for conformity assessment. For conformance demonstration, it is vital that interested parties agree that a particular test method is technically correct (i.e. provide reliable analytical results), is appropriate for the samples to be analysed, tested and vetted by technical experts, and is unbiased in its application. These criteria are generally fulfilled by test methods that are developed and published by a standards development organization (SDO) (e.g. IEC, ISO). Because of limited resources and the length of time needed to develop and validate these procedures, only a limited number of substances can be addressed at any given time for test method development.

This document provides a process for logically filtering, prioritizing and selecting candidate substances for development of test method standards. The objective of the filtering process is to partition the list of candidate substances into groups based on relative importance. Given that this document is intended for electrotechnical products, the candidate substances are largely drawn, but not exclusively, from the substance lists recorded in the IEC 62474 database [1][1] on material declaration. The substances listed in the database are grouped into 3 categories with brief descriptions given below:

- IEC Criteria 1 – “currently regulated” or “explicitly included within an existing national law or regulation in an IEC member country”. The law or regulation is applicable to electrotechnical products and goes into force at a specific date.
- IEC Criteria 2 – “for assessment” or substance or substance group that meets criteria 1 with the exception that the law or regulation does not cite a specific effective date for the requirements.
- IEC Criteria 3 – “for information only” or does not meet requirement for either criteria 1 or 2. However, “there is a recognized industry-wide common market requirement for reporting this substance or substance group in electrotechnical products”.

NOTE Criterion/criteria is used in this document to denote a rule/principle for evaluating a substance against a set of requirements. The use of the term IEC criteria is specific to the regulatory status of a particular substance as defined in the IEC 62474 standard.

In addition to those substances that are under regulatory scrutiny, market requirements may also be of major consideration for the development of IEC test method standards. There are several very important influences that may dictate the ability of a product to enter or be introduced into the marketplace. Examples of market driven requirements may include EPEAT® (Electronic Product Environment Assessment Tool), Low Halogen initiative set by the electronics industry, Energy Star® [2] for energy efficient products and others. Although there are no legal obligations that electrotechnical equipment meet the requirements set forth in these initiatives, failure to do so may put the supplier at a severe competitive disadvantage. In many cases, the supplier’s product may be disqualified for purchasing consideration for failure to meet these requirements.

The filtering process is intended to screen out the majority of substances for consideration leaving only the “critical few” substances for further consideration. Due to the rapidly changing regulatory environment, the criteria used for filtering may or may not be the most appropriate for the substances under consideration. Thus, some judgement needs to be exercised in interpreting the resulting scores. The final selection process is intended to allow the consideration of additional requirements or criteria that are not captured in the initial filtering process. Subjective criteria (relative importance is not measureable) may also be introduced. No attempt has been made to try to define the criteria in the final selection process given the changing requirements in both the regulatory and market environments.

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1 Numbers in square brackets refer to the bibliography.

2 EPEAT and Energy Star are registered trademarks. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of these registered trademarks.

TEST METHOD DEVELOPMENT – GUIDELINES FOR SUBSTANCE SELECTION

1 Scope

This document provides guidelines for the selection of substances for the development of test method standards. The substances and substance groups listed in the IEC 62474 database are the primary source of candidate substances. Other substances that are under regulatory roadmap and market requirements can also be considered for this filtering and selection process.

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.

IEC 62474:2012, *Material declaration for products of and for the electrotechnical industry*