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Ships and marine technology — Marine environment protection — Specifications on design and selection of sorbents

Navires et technologie maritime — Protection de l'environnement marin — Spécifications relatives à la conception et a la sélection des sorbants

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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).

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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 8, *Ships and marine technology*, Subcommitee SC 2, *Marine environment protection*.

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Introduction

Sorbents are used to recover oil by absorption and/or adsorption. To enhance recovery, most sorbents are both oleophilic and hydrophobic. Additionally, there are sorbents which are either oleophilic or hydrophobic only for use with industrial spills. This document addresses applications pertaining to marine oil spills.

In general, the use of sorbents is only appropriate for the removal of thin oil layers. Sorbents can also be used to protect and/or clean environmentally sensitive areas, where the use of other cleaning equipment is restricted because of the possible damage it can produce.

This document does not refer to loose or bulk sorbents, which should not be used in open waters, because their use, especially with very thin oil layers, is inefficient, but involves the risk of uncontrolled proliferation, and thus subsequent pollution, which may be greater than the original oil pollution.

This document gives some general guidelines for manufacturers as well as users with regard to producing, purchasing, and using such types of material. It will not define any specific type and size of sorbent for a particular application, as so many variables have to be taken into consideration.

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Ships and marine technology — Marine environment protection — Specifications on design and selection of sorbents

1 Scope

This document specifies materials, types, selection criteria and designation and marking of sorbents and data to be provided by manufacturer(s) for the sorbents.

The purpose of this document is to assist manufacturers and facilitate users in selecting sorbents by technical criteria. It does not purport to address all aspects of sorbents or safety concerns associated with sorbent use, nor does it define sorbent operational procedures.

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 16165, *Ships and marine technology — Marine environment protection — Terminology relating to oil spill response*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16165 and the following apply.

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

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

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

3.1
absorbent
material that picks up and retains a liquid distributed throughout its molecular structure

3.2
adsorbent
material that is coated by a liquid on its surface including pores and capillaries

3.3
hydrophobic
material or surfaces repelling water

3.4
oleophilic
material or surfaces attracting oil

3.5
sorption capacity
ability of a product to absorb and/or adsorb as well as contain the collected oil

Note 1 to entry: Sorption capacity is expressed as weight of oil per weight of the product.

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