INTERNATIONAL STANDARD



First edition 2004-07-01

Protective clothing — Protection against liquid chemicals — Measurement of repellency, retention, and penetration of liquid pesticide formulations through protective clothing materials

Vêtements de protection — Protection contre les produits chimiques liquides — Mesurage de la répulsion, de la rétention et de la pénétration des formulations de pesticides liquides à travers les matériaux des vêtements de protection



Reference number ISO 22608:2004(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by FLS.

© ISO 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Case postale 56 • CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 749 09 47 E-mail copyright@iso.org Web www.iso.org Published in Switzerland

Contents

Forew	ordiv
Introdu	ıctionv
1	Scope
2	Normative references
3	Terms and the finitions
4	Principle
5 5.1 5.2 5.3	Apparatus and materials for contamination of test specimen
6	Test specimens
7	Selection of analytical technique7
8 8.1 8.2 8.3 8.4	Preparation of test apparatus and materials
9 9.1 9.2	Method A
10 10.1 10.2 10.3 10.4 10.5 10.6 11	Method B
12	Test report

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.

International Standards are chafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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 identifying any or all such patent rights.

ISO 22608 was prepared by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 13, *Protective clothing*.



Introduction

The health and safety of workers involved in the mixing, loading and application of liquid pesticides can be affected by dermal exposure to liquid pesticide formulations. Use of protective clothing can assist in minimizing the danger of contact with potentially harmful pesticides. Nonporous materials that provide excellent protection to the user are usually not suitable for many environments where there is a potential for heat stress. Therefore, garments made of porous materials that can provide a balance between risk from pesticide exposure and user comfort can be used as personal protective equipment (PPE) for workers.

The movement of unid pesticides through these materials is primarily due to penetration through spaces between fibres and interstices between yarns. As these materials provide protection either by repelling or retaining liquid pesticide, the measurement of these properties are also important. This test method is used to

between fibres and interstices between yarns. As these materials provide protection either by repell retaining liquid pesticides the measurement of these properties are also important. This test method is us measure repellency, retering and penetration of liquid pesticides through protective clothing materials.

this document is a preview denerated by EUS

Protective clothing — Protection against liquid chemicals — Measurement of repellency, retention, and penetration of liquid pesticide formulations through protective clothing materials

1 Scope

This International **Standard** specifies a test method to measure repellency, retention and penetration of a known volume of liquid pesticide when applied to protective clothing material. No external hydrostatic or mechanical pressure is applied to the test specimen during or after the application of the liquid pesticide.

The degree of contamination depends on numerous factors such as type of exposure, application technique, and pesticide formulation. As the level of exposure can vary considerably, this method is designed to rate relative performance of personal protective equipment (PPE) materials at two levels of contamination. Low level of contamination is achieved by applying 0,1 ml liquid formulation and high level by applying 0,2 ml.

This test method does not measure resistance to permeation or degradation.

This test method is suitable for field strength and concentrated pesticide formulations. This method may not be suitable for testing protective clothing materials against volatile pesticides formulations.

This International Standard is applicable to the evaluation of materials that are new or those that have undergone treatment such as laundering, or simulated abrasion. Details of the treatment shall be reported. This test method can also be used to determine the resistance provided by protective clothing materials against penetration of new pesticide formulations.

2 Normative references

The following referenced documents are indispensable of 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.

ISO 2859-1:1999, Sampling procedures for inspection by attributes Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

analytical technique

procedure whereby the concentration of the test chemical in a collection medium is quantitatively determined

NOTE The procedure selected is based on the test liquid to be analysed. Applicable techniques include, but are not limited to, gas chromatography, high pressure liquid chromatography, gravimetric analysis, and radionuclide tagging/detection counting.

3.2

coated fabric

flexible material composed of a textile fabric and an adherent polymeric or other material applied to one or both surfaces