AS/NZS ISO 22608:2007
ISO 22608:2004

AS/NZS ISO 22608:2007

Australian/New Zealand Standard™

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

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF-004, Occupational Protective Clothing. It was approved on behalf of the Council of Standards Australia on 29 November 2006 and on behalf of the Council of Standards New Zealand on 20 December 2006.
This Standard was published on 23 February 2007.

The following are represented on Committee SF-004:

AWTA Textile Testing
Apparel & Textile Federation of NZ
Association of Accredited Certification Bodies
Australasian Fire Authorities Council
Australian Business Limited
Australian Chamber of Commerce and Industry
Australian Industry Group
Certification Interests
Communications, Electrical and Plumbing Union
Council of Textile and Fashion Industries of Australia
Department of Consumer & Employment Protection, Worksafe Division, WA
Department of Defence
Energy Networks Association
Safety Institute of Australia
Testing Interests
Textile Clothing & Footwear Union of Australia
The Australian Assembly of Volunteer Fire Brigades Association
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Australian/New Zealand Standard™

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-004, Occupational Protective Clothing. This Standard is identical with, and has been reproduced from ISO 22608:2004, *Protective clothing—Protection against liquid chemicals—Measurement of repellency, retention, and penetration of liquid pesticide formulations through protective clothing materials*.

The objective of this Standard is to specify a test method to measure repellency, retention and penetration of a known volume of liquid pesticide when applied to protective clothing material, by adopting ISO 22608.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

In the course of considering adoption of this Standard, Committee SF-004 agreed that the reader's attention should be drawn to the following points:

(i) The issue of estimating and recording uncertainty in measurement is not addressed in this Standard. Users are encouraged to refer to 'Guide to Expression of Uncertainty in Measurement' issued by BIPM, IEC, IFCC, ISO, IUPAC, IUPAP and OIML.

(ii) Caution is urged as the differences between levels of performance are dependent on the precision of the measurement and may not accurately reflect conditions of use.

For Australian readers, the following reference to an International Standard should be replaced by reference to an Australian Standard as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
2859	Sampling procedures for inspection by attributes	1199	Sampling procedures for inspection by attributes
2859-1	Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	1199.1	Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

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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 liquid 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 measure repellency, retention, and penetration of liquid pesticides through protective clothing materials.

AUSTRALIAN/NEW ZEALAND STANDARD

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 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.

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