



# Standard Practice for Chemical Protective Clothing: Wearing, Care, and Maintenance Instructions<sup>1</sup>

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## 1. Scope

1.1 This practice describes the recommended minimum information to be conveyed by the sellers to end users for the wearing, care, and maintenance of chemical protective clothing.

1.1.1 This practice does not cover specific instructions for when to use protective clothing or design requirements.

1.1.2 This practice does not apply to protective clothing that is solely for protection against flame and thermal hazards.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.3 This practice recommends the minimum information needed to properly implement Sections 10 and 11 of Practice F1461.

## 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

D5489 Guide for Care Symbols for Care Instructions on Textile Products

F1461 Practice for Chemical Protective Clothing Program

2.2 *ANSI Standard*:<sup>3</sup>

Z535.4 Standard for Product Safety Signs and Labels, 1991

## 3. Terminology

3.1 *care, n*—procedures for cleaning, sterilization, decontamination, and storage of protective clothing.

3.2 *contamination, n*—the addition of an undesired chemical or substance to the protective clothing.

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee F23 on Personal Protective Clothing and Equipment and is the direct responsibility of Subcommittee F23.30 on Chemicals.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

3.3 *decontamination, n*—the reduction, removal, or neutralization of contaminant or contaminants from protective clothing to the extent necessary to safely permit the protective clothing to be doffed (taken off), or reused, or discarded.

3.4 *degradation, n*—a deleterious change in one or more properties of a material.

3.5 *end user, n*—the entity or organization whose employees ultimately wear the protective clothing.

3.6 *maintenance, n*—procedures for inspection, repair, and removal from service of protective clothing.

3.7 *protective clothing, n*—an item of clothing that is specifically designed and constructed for the intended purpose of isolating all or part of the body from a potential hazard; or isolating the external environment from contamination by the wearer of the clothing.

3.8 *wearing, n*—procedures for donning, doffing, fitting, and adjusting protective clothing and preparing protective clothing for use.

## 4. Significance and Use

4.1 This practice describes the minimum information to be provided by the seller to the buyer or end user related to the wearing, care, and maintenance of chemical protective clothing. Adherence to this practice allows written information to be provided with the protective clothing to purchasers by means of labels, pamphlets, or other documents.

4.2 Not every element of this practice may be applicable to all chemical protective clothing components or configurations. It is the seller's responsibility to determine which portions of this practice, and the corresponding requirements, are applicable to their protective clothing products. For informational requirements that are not applicable because of the nature of the product and intended use, the seller is to indicate and describe those portions or requirements that are not applicable.

4.3 All information related to wearing, decontamination, care, and maintenance shall be written in a manner so that the end user can readily understand the details. To emphasize important limitations, bold lettering and explicit warning terminology (for example, signal words such as Danger, Warning, and Caution (described in ANSI Z535.4)) shall be used. Where possible, pictograms and illustrations shall be

used to convey specific instructions. The use of symbols, such as those provided in the care of textile products in Guide **D5489**, are appropriate for indicating specific care procedures used in cleaning protective clothing.

## 5. General Information and Information Related to Wearing

**5.1 Address and Point of Contact Information**—The seller shall provide an address, a contact telephone number, and means of electronic communication, as applicable, for questions concerning the proper use, limitations, decontamination, care, and maintenance of the protective clothing. Provision of a toll-free emergency number is encouraged but not required.

**5.2 Safety Considerations, Limitations of Use, and Warranty Information**—The seller shall provide a list of considerations for the safe use of the protective clothing and describe specific limitations for the use of the protective clothing (for example, **DO NOT USE THIS PROTECTIVE CLOTHING NEAR OPEN FLAME OR HIGH HEAT**). The seller shall also provide information on the warranty for the protective clothing.

**5.3 Pre-Use Information**—The seller shall provide information related for how to mark the protective clothing, how to use specific product aids, such as closure lubricants or visor antifog agents, and recommended undergarments and associated equipment, as applicable. A statement shall be provided to the buyer or end user that not all performance properties for the protective clothing can be evaluated in the field.

**5.4 Sizing Information**—The seller shall provide information for the selection of the correct size of the protective clothing by the end user and describe any adjustments that can be made for properly sizing the protective clothing.

**NOTE 1**—One way of presenting this information is by using a chart indicating the appropriate size for ranges in key end user dimensions, such as height and waist circumference for full body garments.

**5.5 Donning and Doffing Instructions**—The seller shall provide instructions to the buyer or end user on the proper donning (putting on and wearing) and doffing (removal) of the protective clothing. This doffing information shall include the specific warnings about preventing cross-contamination of other personnel, equipment, and street clothing, as required.

**5.6 Recordkeeping**—The seller shall provide a means for documenting the history of the protective clothing to describe its wearing, care, and maintenance.

**NOTE 2**—Suggestions for entries under the use portion of the clothing records include such items as exposure contaminants, physical state of contaminants, use duration, length of exposure, degree or method of exposure, and temperature and other environmental conditions.

## 6. Information Related to Care Instructions

### 6.1 Information Related to Cleaning:

**6.1.1 Cleaning Instructions**—The seller shall provide specific instructions for the end user to properly clean, launder, or refurbish the protective clothing. This information shall include instructions for washing (for example, specific washing method, type of washing machine, machine cycle or formulation, detergents or cleaning agent, wash temperature,

and pretreatment options) and drying (for example, the drying method, drying temperature, and length of time required). Warnings for limitations on the cleaning of protective clothing such as loss of physical integrity or other forms of degradation, shall be included in this section. Additionally, the seller shall describe methods to inspect or test for damages to the protective clothing caused by cleaning or other maintenance, as applicable.

### 6.2 Decontamination and Disinfection:

**6.2.1** The seller shall provide specific instructions for removing various forms of contamination, if decontamination is recommended. These instructions shall include descriptions of acceptable processes, the types of contaminants that can be safely removed, the means of handling contaminated or non-sterile garments, the limitations of the processes, and all other information of importance to decontamination. This shall also include information necessary for decontamination while the protective clothing is being worn by the end user, as appropriate, to allow for safe doffing without the hazard of contamination. If known, the seller, shall recommend practices or test methods to assist in determining if the decontamination has been effective.

**NOTE 3**—In the absence of information for determining effective decontamination of protective clothing, a warning that all contamination may not have been removed is appropriate.

**6.2.2** The seller shall provide specific instructions for disinfection of protective clothing, as appropriate, for personal hygiene or other such needs.

**6.3 Storage**—The seller shall provide specific instructions for the end user to properly store the protective clothing before and after use. This information shall include any specific storage limitations relative to temperature, humidity, and atmospheric contaminants (for example, ozone and ultraviolet) or other storage limitations including folding. Information on end-of-life indications or how long the clothing can be stored (without use), or both, shall also be included in this section.

**NOTE 4**—The length of time that clothing can be stored assumes that the clothing has been properly cared for and maintained in accordance with manufacturer instructions, and has not been subjected to any wearing. Storage life is a function of clothing material degradation caused by storage conditions.

## 7. Information Related to Maintenance

**7.1 Inspection Instructions**—The seller shall provide specific instructions so that the end user can perform a preliminary visual inspection of the protective clothing to ensure there are no observable defects. If appropriate, testing procedures and requirements (for example, pressure testing at specified intervals) shall also be included in this section.

**7.2 Repair**—The seller shall provide specific instructions about repairs, authorized by the manufacturer, that do not compromise the integrity or performance of the protective clothing. Special attention shall be given to repair information and instructions that stipulate any appropriate tests, which need to be conducted to ensure the protective clothing will perform properly.

### 7.3 Removal from Service:

7.3.1 The seller shall provide specific guidance for judging when an item of protective clothing shall be removed from service.

7.3.2 The seller shall provide specific guidance for disposal when such guidance is necessary.

## 8. Keywords

8.1 care; chemical protective clothing; cleaning; decontamination; inspection; instructions; maintenance; protective clothing; repair; removal from service; storage; wearing

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