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**Protective clothing - Chemical protective clothing
(English Translation)**

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1 Scope

This document stipulates the type division, grading, marking, basic technical requirements, test methods of chemical protective clothing.

This document applies to the chemical protective clothing required by employees in the workplace and emergency rescue work.

This document does not apply to chemical protective clothing used in firefighting and other occasions.

Note 1: This document does not specifically propose performance indicator requirements for personal protective equipment, such as gloves, protective boots/shoes, protective masks, view windows, safety glasses, breathing apparatus, unless the protective equipment is an integral part of the protective clothing and provides corresponding chemical protection properties.

Note 2: The protection objects involved in this document include gaseous, liquid, solid chemical substances.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, for dated reference documents, only the version corresponding to the date applies to this document; for undated reference documents, the latest version (including all amendments) applies to this document.

GB/T 2912.1 Textiles - Determination of formaldehyde - Part 1.Free and hydrolyzed formaldehyde (water extraction method)

GB/T 3820 Determination of thickness of textiles and textile products

GB/T 3917.3 Textiles - Tear properties of fabrics - Part 3.Determination of tear force of trapezoid-shaped test specimens

GB/T 3920 Textiles - Tests for color fastness - Color fastness to rubbing

GB/T 3923.1 Textiles - Tensile properties of fabrics - Part 1.Determination of maximum force and elongation at maximum force using the strip method

GB/T 4669 Textiles - Woven fabrics - Determination of mass per unit length and mass per unit area

GB/T 4744 Textiles - Testing and evaluation for water resistance - Hydrostatic pressure method

GB/T 7573 Textiles - Determination of pH of aqueous extract

GB/T 8629 Textiles - Domestic washing and drying procedures for textile testing

GB/T 8685 Textiles - Care labeling code using symbols

GB/T 12586 Rubber-or plastics-coated fabrics - Determination of resistance to damage by flexing

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Chemical protective clothing

Clothing used to protect the human body from harm caused by chemical substances.

Note: This clothing can cover the entire or most of the human body; can at least provide protection for the torso, arms, legs.

3.2 Fully encapsulated chemical protective clothing

Clothing that completely covers the wearer (or completely cover the wearer and respiratory protective equipment) and are capable of providing gas-tight and/or liquid-tight protection.

3.3 Non-encapsulated chemical protective clothing

Clothing that provides protection for most of the human body (including at least the torso, arms, legs), but does not need to cover the wearer's respiratory equipment.

3.4 Limited use chemical protective clothing

Protective clothing that has low requirements on the strength and wear resistance of clothing materials and is only used once or for a limited number of times before the clothing is not contaminated.

3.5 Reusable chemical protective clothing

The protective clothing which has high requirements for strength and wear resistance of clothing material, must be subject to necessary decontamination after use, can still provide effective protection through evaluation.

4 Types and codes

According to the protection objects and overall protective performance, chemical protective clothing is type-divided according to Table 1.

5.1 General requirements

The design and material selection of chemical protective clothing shall consider.

5.2.1 Gas-tight chemical protective clothing

The design of gas-tight chemical protective clothing (type 1) shall comply with the following requirements.

5.2.3 Liquid jet tight chemical protective clothing and liquid jet tight chemical

protective suits for emergency response team

The design of liquid jet tight chemical protective clothing (type 3) and liquid jet tight chemical protective suits for emergency response team (type 3-ET) shall comply with the following requirements.

5.2.7 Woven material liquid acid and alkali chemical protective clothing

The design of woven material liquid acid and alkali chemical protective clothing (type 7) shall comply with the following requirements.

5.3.1 General

All chemical protective clothing garments and their clothing materials shall be evaluated for the items listed in Table 2.

5.3.2.1 Overall gas tightness

According to the provisions of 6.4, perform an overall gas tightness test on gas-tight chemical protective clothing and gas-tight chemical protective suits for emergency response team. The pressure drop, within 4 minutes, shall not be greater than 20% of the test pressure.

5.3.2.3 Liquid jet tight

According to the provisions of 6.6, the overall liquid jet tight performance test is conducted on the liquid jet tight chemical protective clothing and the liquid jet tight chemical protective suits for emergency response team. The stain area formed by the penetrating liquid on the indicator clothing shall be less than 3 times the calibrated stain area.

6.1 Temperature and humidity conditioning for overall protective performance of clothing

Before testing the overall performance of chemical protective clothing, temperature and humidity conditioning shall be carried out in the following order.

6.2 Wearing test

When a sample wearing test is required before the overall performance test of chemical protective clothing, the subject shall perform the activities in step C in Appendix E three times.

6.3.1 Pretreatment

For reusable non-woven material chemical protective clothing or clothing materials, if the cleaning method is indicated, before testing various clothing material properties, they shall be cleaned 5 times according to the cleaning method recommended by the manufacturer (or the number of cleaning times recommended by the manufacturer), unless the test method states otherwise.

6.4 Overall gas tightness test

It is carried out in accordance with the provisions of Appendix A.

6.5 Inward leakage rate test

It is carried out in accordance with the provisions of Appendix B.

6.6 Liquid jet tight performance test

Before the test, carry out the wearing test according to the provisions of 6.2. If the wearing test cannot be passed, subsequent tests will be stopped.

Proceed according to the provisions of Method 1 in Appendix C.