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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Industrial hemp seed - Part 1: Definition of industrial hemp
variety**

工业大麻种子 第1部分：品种
(English Translation)

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1 Scope

This Part specifies the terms and definitions, requirements, inspection rules and judgement rules of the industrial hemp variety.

This Part is applicable to the safety requirements inspection of the industrial hemp variety.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 6682 Water for Analytical Laboratory Use - Specification and Test Methods

3 Terms and Definitions

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

3.1

Cannabis Sativa L.

Cannabaceae cannabis crop is also knowns as fructus cannabis, China-hemp, line hemp, etc.

3.2 Tetrahydrocannabinol, THC

A phenolic compound contained in cannabis plants that can cause hallucinogenic addiction, the English name of which is tetrahydrocannabinol, or THC for short; it is one of the control objects of narcotic drugs and psychotropic substances.

3.3 Industrial hemp

The tetrahydrocannabinol (THC) content in the dry matter of the top leaves and flower spikes of the plant population during the flowering period is less than 0.3%, which cannot be directly used as a type of cannabis crop for drug use.

3.4 Dioecious variety

The industrial hemp variety that the female flowers are grown on female plants and the male flowers are grown on male plants.

3.5 Monoecism variety

More than 90% of the plants in the variety population are varieties with female and male flowers growing on the same plant.

3.6 Single-sex variety

More than 90% of the plants in the variety population are single female or male plants, which are divided into female varieties and male varieties.

4.1 Basic requirements

All types of industrial hemp varieties must be artificially bred, appropriately named, and passed crop variety certification (identification or registration).

4.2 Safety requirements

For all types of industrial hemp varieties, the tetrahydrocannabinol (THC) content of in the dry matter of the top leaves and flower spikes of the plant population during the flowering period must be less than 0.3%.

5.1.1 Sample collection period

Determine the collection period according to the following requirements:

- a) Dioecious and monoecious plants are sampled at the beginning of the female plant's fruiting stage, that is, sampling when there are clusters of small green fruits in the top leaf axils of 10% of the female plants;
- b) Single-sex female varieties of industrial hemp are sampled at the end of full bloom, that is, sampling when the stigma in the pistil of the top leaf axils of 50% of the plant is wilted and brown;
- c) The single-sex male varieties are sampled at the budding stage, that is, sampling

5.3.4.1 Extraction

The extraction is carried out in the following sequence:

- a) Place the sample in a blast drying oven at 60°C and bake it to a constant weight (moisture content $\leq 10\%$); then grind all of it (fineness ≤ 0.425 mm) and mix well; take 3 portions of a 0.2000g of sample in a test tube in parallel; record the weighing quantity m_i ;
- b) Place in a blast drying box and heat at (150 ± 1.0) °C for 10 min. After cooling, add 7mL~8mL of n-hexane-ethyl acetate solution, sonicate for 5min; stand for 90min; centrifuge; and collect the supernatant fluid into the volumetric flask;
- c) Wash the residue; filter; collect the filtrate into a volumetric flask; make the constant volume to 10mL for measurement.

5.3.4.2 Chromatographic reference conditions

Use the octadecylsilane chemically bonded silica as chromatographic column of filler (column length is 25cm, inner diameter is 4.6mm, particle size is 5.0 μ m); acetonitrile is used as mobile phase A, phosphate buffer solution (pH=4) is used as mobile phase

B; then elute according to the ratio of A: B=85: 15, and the flow rate of 1mL/min, the column temperature is 30°C; and the detection wavelength is 220 nm.

5.3.4.3 Drawing of the standard curve

The delta9-tetrahydrocannabinol (1mg/mL) standard substance is formulated by methanol into the serial reference substance solutions with the concentration of 0.4 μ g/mL,

0.8 μ g/mL, 1.6 μ g/mL, 3.2 μ g/mL, 6.4 μ g/mL, 16 μ g/mL, 40 μ g/mL; store in the brown volumetric flask; protected from light; and store at a low temperature at -10°C below (the use period of this solution is 7d). Measure sequentially under the conditions of

5.3.4.2, and draw a standard curve based on the scatter plot formed by the experimental data with the concentration as the abscissa C and the peak area A as the ordinate; and the calculation formula $A = \alpha C + b$ may be obtained, and record the constant α and b.

5.3.4.4 Determination of the specimen

Measure the prepared test solution under the conditions of 5.3.4.2; and determine the THC peak in the specimen by the retention time of THC in the reference substance;

and record the corresponding peak area value A at the same time. If the concentration of the extract is too high, the sample shall be injected after dilution and the dilution factor s is

recorded to be s.

5.3.5 Calculation and expression of results

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