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

GB/T 45168-2024

Replacing GB/T 5009.195-2003

Determination of chromium picolinate in health foods

保健食品中吡啶甲酸铬的测定

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document specifies the technical requirements related to food quality. For food safety requirements, please refer to relevant laws, regulations, policies and food safety standards. document.

This document replaces GB/T 5009.195-2003 "Determination of chromium picolinate content in health foods".

Compared with 2003, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of application of the document has been changed (see Chapter 1, Chapter 1 of the 2003 edition);
- b) The preparation of standard solution has been changed (see 5.3, 3.4 of the 2003 edition);
- c) Added sample preparation (see 7.1);
- d) The chromatographic reference conditions have been changed (see 7.3, 5.2 of the 2003 edition);
- e) The precision of the method has been changed (see Chapter 9, Chapter 7 of the 2003 edition);

f) The detection limit and quantification limit of the method have been changed (see Chapter 10, Chapter 1 of the 2003 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Standardization of Special Foods (SAC/TC466).

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The previous versions of this document and the documents it replaces are as follows.

- First published in 2003 as GB/T 5009.195-2003;
- This is the first revision.

1 Scope

This document describes a HPLC method for the determination of chromium picolinate in health foods.

This document applies to the pyridoxine in health foods in dosage forms such as tablets, hard capsules, soft capsules, granules, powders, oral liquids, beverages, teas, etc.

Determination of chromium picolinate.

2 Normative references

GB/T 6682

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

The chromium picolinate in the sample was extracted with 50% methanol solution, separated by high performance liquid chromatography, detected by ultraviolet detector, and determined by retention time.

Quantitative analysis by external standard method.

5 Reagents or materials

Unless otherwise specified, only chromatographic grade reagents were used.

5.1 Reagents

5.1.1 Water. Grade 1 water as specified in GB/T 6682. 5.1.2 Acetonitrile (CH₃CN).

5.1.3 50% methanol solution. Take 100 mL of methanol, add 100 mL of water and mix well.

5.1.4 Potassium dihydrogen phosphate solution (10 mmol/L, containing 0.1% phosphoric acid). weigh 1.361 g potassium dihydrogen phosphate (high-grade pure), dissolve it in water, and add Add 1 mL of phosphoric acid (super pure), make up to 1000 mL with water, and mix well.

5.2 Standard samples or standard substances

Chromium picolinate (C₁₈H₁₂CrN₃O₆, CAS No.. 14639-25-9). purity not less than 98.0%, or certified by the state standard samples or standard substances.

5.3 Solution preparation

5.3.1 Chromium picolinate standard stock solution (200 µg/mL). weigh 10 mg (accurate to 0.1 mg) of standard substance or standard sample.