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GA

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

GA/T 121-1995

**Forensic sciences - Examination methods for cantharidin in
biological samples - GC and GC-MS
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GA/T 121-1995 "Qualitative and Quantitative Analysis Methods of Cantharidin in Poisoning Test Materials", which is in line with GA/T 121-1995 in addition, the main technical changes except for editorial changes are as follows.

- Modified the standard name (see cover, cover of 1995 edition);
- Deleted the gas chromatography inspection method (see the first edition of the 1995 edition);
- Deleted the TLC inspection method (see the second edition of the 1995 edition);
- Revised the content of the instrument and materials (see Chapter 5 and Chapter 6, see Chapter 5 of the 1995 edition);
- Added gas chromatography-mass spectrometry method (see Chapter 7);
- Added liquid chromatography-tandem mass spectrometry method (see Chapter 7).

Please note that some content of this document may involve patents. The issuer of this document does not assume responsibility for identifying these patents.

This standard was proposed by the National Toxic Analysis Sub-Committee of Criminal Technology Standardization Technical Committee (SAC/TC179/SC1) and be in charge.

1 Scope

This standard specifies the gas chromatography-mass spectrometry (GC-) of cantharidin in forensic scientific biological materials (blood, urine, liver, kidney, stomach and stomach contents, etc.) MS) and liquid chromatography-mass spectrometry (LC-MS) qualitative and

quantitative testing methods.

This standard applies to the qualitative and quantitative analysis of cantharidin in forensic biological samples. Qualification of cantharidin in other suspicious samples Analysis and quantitative analysis can refer to use.

2 Normative references

The following documents are essential for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For the cited documents without date, the latest version (including all amendments) applies to this document.

GB/T 6682 Analysis of laboratory water specifications and test methods GA/T 122
Nomenclature of poison analysis

3 Terms and definitions

The terms and definitions defined in GA/T 122 apply to this document.

4 Principle

The blank sample and the added sample are used as controls. According to the requirements of parallel operation, the biological sample is extracted, purified and concentrated, and then the gas phase is used.

Qualitative quantification of chromatography-mass spectrometry and liquid chromatography-mass spectrometry, with retention time, characteristic ion fragment peak of mass spectrometry and relative abundance ratio as qualitative judgment According to the peak area, the external standard method was used for quantitative analysis.

5.1 Reagents

The water for gas chromatography-mass spectrometry experiment should meet the third grade water specified in GB/T 6682, and the water for liquid chromatography-tandem mass spectrometry experiment should meet Grade 1 water specified in GB/T 6682. Unless otherwise stated, the reagents used in the analysis are of analytical grade, and the reagents include.

- a) dichloromethane;
- b) ethyl acetate;
- c) hydrochloric acid;
- d) Methanol (chromatographically pure);

- e) Acetonitrile (chromatographically pure);
- f) Formic acid (chromatographically pure);
- g) Formic acid/ammonium formate buffer (pH 3.5). measure 3.77mL formic acid, weigh 6.30g ammonium formate, add deionized water and shake