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

**GB/T 47075-2026**

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**Determination of cephalosporin antibiotics in wastewater -  
Liquid chromatography-tandem mass spectrometry**

废水中头孢菌素类抗生素的测定 液相色谱-串联质谱法

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Standardization Administration of the PRC**

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### Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Waste Chemicals Disposal (SAC/TC294). This document was drafted by: Dalian Product Quality Inspection and Testing Research Institute Co., Ltd., and Zhejiang Provincial Chemical Product Quality Inspection Station Co., Ltd. Henan Xinlianxin Fertilizer Testing Co., Ltd., Qingdao Huace Testing Technology Co., Ltd., CNOOC Tianjin Chemical Research and Design Institute Co., Ltd. Suzhou Anfeng Environmental Protection Technology Co., Ltd., Qingdao University of Technology. The main drafters of this document are. Hu Xia, Guo Ming, Chen Yingchao, Li Ying, Yan Lei, Ding Ling, Ren Kaiyuan, Zhang Qingjian, Sun Zhijing, Li Xiaofei, and Jia Keling. Xu Ouwen, Liu Lei, Ren Guojie, Wu Haixia, Wang Dezhi, Tong Xiaojia.

Determination of cephalosporin antibiotics in wastewater Liquid chromatography-tandem mass spectrometry Warning. Some reagents used in this document are hazardous and must be handled with extreme caution. Personnel using this document should have formal laboratory training. This document is based on practical experience working in the laboratory. It does not cover all potential safety issues. Users are responsible for taking appropriate safety and health precautions. Implement the measures and ensure they comply with the conditions stipulated by relevant national laws and regulations.

### 1 Scope

GB/T 47075-2026 is the Chinese national standard covering cephalosporins in effluent - from pharmaceutical plants and hospitals, at concentrations far below any toxic threshold but high enough to select for resistant bacteria in the receiving water. First edition. It was issued on 28 January 2026 and has been in force since 1 August 2026, as a first edition.

The document is under the responsibility of the China Petroleum and Chemical Industry Federation. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes the principle, reagents and materials, and instruments used in the determination of cephalosporin antibiotics in wastewater by liquid chromatography-tandem mass spectrometry. Sample collection and preservation, experimental procedures, processing of experimental data, accuracy, and precision. This document applies to 13 cephalosporin antibiotics (cefpirome, cefquinoxime, etc.) found in domestic sewage, aquaculture wastewater, and medical wastewater. Fervoline, cefazolin, cefalexin, cefotaxime, cefradine, cefuroxime, cefixime, cefazolin, cefoperazone, ceftiofur  
Determination of cephalosporin. The limits of detection for the 13 cephalosporin antibiotics in this document are

0.03 ng/L to

1.00 ng/L, and the limits of quantitation are

0.1 ng/L to

3.0 ng/L. See Appendix A.

## 2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 603 Preparation of reagents and products used in chemical reagent test methods

GB/T 6682-2008 Specifications and test methods for water used in analytical laboratories  
HJ

91.1 Technical Specification for Wastewater Monitoring

HJ493 Technical Specifications for the Preservation and Management of Water Quality  
Samples

HJ494 Water Quality Sampling Technical Guide

## 3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Principles After filtration, the samples were enriched and purified using a solid-phase

extraction column, and then separated and detected by liquid chromatography-tandem mass spectrometry. Based on retention time and characteristics... Ion qualitative analysis, external standard method for quantitative analysis.

## 5 Reagents and Materials

5.1 Unless otherwise specified, all reagents and water used in this document refer to analytical grade reagents and those specified in Table 1 of GB/T 6682-2008.