

ICS 73.080

CCS Q69



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

GB/T 44539-2024

Technical specification for fluorspar

萤石技术规范

Issued on: September 29, 2024

Implemented on: April 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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. 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 by China Building Materials Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Non-metallic Mineral Products and Products (SAC/TC 406). This document was drafted by: Xianyang Non-metallic Mineral Research and Design Institute Co., Ltd., Henan Second Geological and Mineral Survey Institute Co., Ltd., Zhejiang Kema Friction Materials Co., Ltd., Huangshi Jinchaoyang Technology Co., Ltd., Xianju County Transportation and Water Conservancy Development Group Co., Ltd., Ruizhou Construction Group Co., Ltd., Fujian General Team of China Building Materials Industrial Geological Survey Center, Suzhou Sinoma Non-metallic Mineral Industry Design and Research Institute Co., Ltd. Zunyi Guiying New Materials Co., Ltd., Institute of Comprehensive Utilization of Mineral Resources, Chinese Academy of Geological Sciences, China Building Materials Industrial Geological Exploration Center Center, Xinjiang Corps of China Building Materials Industry Geological Exploration Center, and Xianyang Co., Ltd. of China National Testing and Inspection Holding Group. The main drafters of this document are. Zheng Changwen, Zhao Zhiqiang, Liao Xiangyu, Liu Guangyu, Yin Zhibo, Wang Qinghao, Xu Zhulong, Yu Yanghui, Li Zhonghuan, Zeng Xiaobo, Zhou Wei, Zhang Honglin, Bai Desheng, Yin Yanyao, Ye Kongkai, Cheng Feifei, Zhu Zhe, Dong Xuzhou, Zhang Qing, Wang Hong, Duan Yaping, Zhang Xiaolin, Zhu Meng, and Yao Wenjie. Fluorite Technical Specifications

1 Scope

GB/T 44539-2024 is the Chinese technical specification for fluorspar. It is a strategically significant mineral: fluorspar is the sole industrial source of fluorine, it feeds hydrofluoric acid and thence refrigerants, fluoropolymers, lithium battery electrolyte and uranium processing, it is on every critical raw material list, and China is both the largest producer

and a large consumer. The specification is what the trade runs on. The standard sets the classification into acid grade, ceramic grade and metallurgical grade and their subdivisions, then the requirements for each: the calcium fluoride content that defines the grade, the silica, calcium carbonate, sulfur and phosphorus limits that determine its usability, the moisture, the particle size for the powder grades and the lump size for metallurgical grades, and the impurities specific to particular downstream uses. It then gives the test methods, the sampling, the inspection rules and the marking, packaging, transport and storage. It takes effect on 1 April 2025.

This document specifies the classification and marking, requirements, test methods, inspection rules, marking, packaging, transportation and storage of fluorite. This document applies to fluorite ore and fluorite products.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies. in this document.

GB/T 191 Pictorial markings for packaging, storage and transportation

GB/T 5195.2 Determination of carbonate content in fluorite

GB/T 5195.6 Determination of phosphorus content in fluorite - Spectrophotometric method

GB/T 5195.8 Determination of silicon dioxide content in fluorite

GB/T 5195.17 Determination of fluorite flotation agent content by gravimetric method

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

GB/T 8170 Rules for rounding off values and expression and determination of limit values

GB/T 19077 Particle size distribution laser diffraction method

GB/T 22563 Determination of moisture content in fluorite

GB/T 22564 Fluorite sampling and sample preparation

GB/T 31313 Determination of fluorite particle size by sieving

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Fluorspar lump After primary selection, the fluorite ore is selected to obtain a fluorite ore product with a CaF_2 content of not less than 65% and a particle size of not less than 5

mm.

3.2 Fluorspar fines After the initial selection of fluorite ore, the fluorite ore product with CaF_2 content not less than 60% and particle size less than 5 mm is obtained.

3.3 Fluorite for metallurgical Fluorite products are made from fluorite ore through mechanical processing and are used in steelmaking, ironmaking and other fields.

3.4 Fluorite for chemical industry Fluorite products used in the fluorine chemical industry are prepared from fluorite ore through processes such as crushing, grinding, flotation, dehydration and drying.