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

GB/T 5463.4-2025

Non-metallic mineral products vocabulary - Part 4: Graphite

非金属矿产品词汇 第4部分：石墨

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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. This document is Part 4 of GB/T 5463, "Glossary of Non-metallic Mineral Products". GB/T 5463 has already published the following parts.

1. General Terms and Definitions;

4. Graphite. 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 Building Materials Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Non-metallic Mineral Products and Products (SAC/TC406). This document was drafted by: Taiyuan University of Technology, Qitaihe Baotailong Graphene New Materials Co., Ltd., and Xianyang Non-metallic Minerals Research and Design Institute. Limited Liability Company, Hunan Chenyu Fuji New Energy Technology Co., Ltd., Harbin University of Science and Technology, Heilongjiang Institute of Technology, Dongying Baofeng Auto Parts Co., Ltd. Limited Company, China Nonmetallic Minerals Industry Co., Ltd., Zigong Dongxin Electric Carbon Co., Ltd., Ganzhou Ruifute Technology Co., Ltd., Jiangsu Hong Jigao New Materials Co., Ltd., Shaanxi General Team of China Building Materials Industry Geological Exploration Center, and Inner Mongolia Hengke New Materials Technology Co., Ltd. Company, Jixi Graphite Product Quality Supervision and Inspection Center. The main drafters of this document are. Ma Jianchao, Feng Fan, Zhu Xinjie, Zhou Xiangyang, Gao Chengwei, Shu Feng, Han Zhidong, Li Lu, Tian Shiguo, and Song Yanli. Han Feng, Yang Jie, Yang Xiangnong, Li Yang, Lü Guoliang, Zhang Honglin, and Wang Tengshi.

Non-metallic minerals are the material foundation upon which human society depends for survival and development, and together with energy minerals, metallic minerals, and water and gas minerals, they constitute our... China's mineral resource system. The non-metallic mineral industry mainly includes non-metallic mineral exploration, mining, beneficiation, and

non-metallic mineral processing, playing a vital role in my country's economic development. Non-financial industries bear the heavy responsibility of supporting economic and social development, resource security, improvement of people's livelihoods, and safe supply, and are a crucial foundation for my country's national economic and social development. Due to their superior and unique physical and chemical properties that distinguish them from other minerals, minerals and their products are widely used not only in construction, but also in other fields. In fields such as building materials, metallurgy, petroleum, chemicals, light industry, and agriculture, and also in next-generation information technology, aerospace, nuclear energy, military industry, and high-end equipment manufacturing. It plays a role in strategic emerging industries and high-tech industries such as manufacturing, marine engineering, new energy, new materials, biomedicine, and environmental protection and governance. Its irreplaceable and vital role has made it increasingly important in the new round of technological revolution and the development of emerging industries, and it is a key factor in the country's cultivation and development of new... Developing industries is a key foundation for gaining new competitive advantages globally. GB/T 5463 "Glossary of Non-metallic Mineral Products" aims to standardize the general terminology of non-metallic mineral products. The terminology and definitions used for various mineral types are proposed to consist of several parts.

1. General Terms and Definitions. The purpose is to define the general terminology used for non-metallic mineral products, as well as their physicochemical properties, processing... Terms and definitions related to the preparation of minerals and their products.
2. Talc. The purpose is to define talc minerals, talc composition and properties, and key terms and definitions for talc products.
3. Gypsum. The purpose is to define gypsum minerals, gypsum composition and properties, and key terms and definitions for gypsum products.
4. Graphite. The purpose is to define the main terms and definitions for graphite minerals, graphite composition and properties, and graphite products.
5. Attapulgit. The purpose is to define attapulgit ore, its composition and properties, and the main products made from it. Terms and definitions. Non-metallic mineral products vocabulary, Part

1 Scope

GB/T 5463.4-2025 is the Chinese national standard covering the vocabulary of graphite as a mineral product - the flake, amorphous and vein types, the flotation and purification terms, the expandable and spheroidised grades, and the properties by which a graphite is bought and sold. Part 4 of the series, first edition, under the China Building Materials Federation. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document defines the terminology for graphite ore, graphite composition and

properties, and graphite products. This document applies to the production, application, inspection, distribution, and scientific research of graphite, and serves as the basis for standardized technical terminology.

2 Normative references

This document has no normative references.

3 Graphite Ore Terminology

3.1 graphite One of the polymorphic variants of carbon, it has a hexagonal or trigonal crystal system and a layered structure.

Note. Chemical formula. C; classified into flake graphite and microcrystalline graphite based on flake size; XRD characteristic diffraction peaks. $d_{002} = 0.3356 \text{ nm}$, $d_{101} = 0.2034 \text{ nm}$. $d_{112} = 0.1156 \text{ nm}$.

3.2 natural graphite Black, lustrous, naturally occurring graphitic mineral. Based on appearance and flake size, it is classified into flake graphite and microcrystalline graphite.

3.3 flake graphite Phanerocrystalline graphite that occurs naturally in the form of flakes or scales.

Note. Also known as crystalline graphite. It possesses excellent properties such as high temperature resistance, electrical conductivity, thermal conductivity, lubrication, plasticity, and resistance to acids and alkalis.

3.4 An aggregate composed of natural graphite crystals with a particle size of less than $1 \mu\text{m}$.

Note. Also known as earthy graphite, amorphous graphite, or cryptocrystalline graphite. It is grayish-black or steel-gray in color, has a metallic luster, a slippery feel, and easily stains the hands. It typically has a higher degree of graphitization than 55.0%.

4 Graphite composition and performance terminology

4.1 Graphitization degree The index used to measure the perfection of graphite crystal structure is the degree of regularity of the arrangement of carbon atoms in the graphite structure.

4.2 The end of the screening process After the sample is sieved for the specified time, continue sieving for 1 minute. When the ratio of the mass of the material passing through the sieve to the mass of the sample is less than 0.3%, it is considered complete. The screening endpoint has been reached.