

# Global High Purity Silicon Hexaboride Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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## Abstracts

According to our (Global Info Research) latest study, the global High Purity Silicon Hexaboride market size was valued at US\$ 124 million in 2025 and is forecast to a readjusted size of US\$ 175 million by 2032 with a CAGR of 4.8% during review period.

Silicon hexaboride SiB<sub>6</sub> powder is a shiny black-gray powder, molecular formula: SiB<sub>6</sub>, molecular weight: 92.952 nanometer silicon boride has high purity, small particle size distribution, high specific surface area. The melting point is as high as 2230°C. It is insoluble in water, anti-oxidation, and Chemical corrosion has high resistance, especially in terms of high thermal shock and stability; silicon boride has a higher grinding efficiency than boron carbide and can be used as abrasives, grinding and engineering ceramics, such as nozzles, gas turbine blades and other different sintering The conditions and sealing coil gathering affect the dispersion performance and use effect of SiB<sub>6</sub> powder. Therefore, silicon boride SiB<sub>6</sub> powder should be sealed in a vacuum package and stored in a cool and dry room. Silicon boride SiB<sub>6</sub> powder should not be exposed to the air. In addition, Should avoid using SiB<sub>6</sub> powder under pressure. In 2025, global High Purity Silicon Hexaboride production reached approximately 96 MT, with an average global market price of around US\$ 1,254 per KG.

SiB<sub>6</sub> is an inorganic compound with high hardness, melting point (about 2230 °C), and chemical stability, widely used in the following fields:

### 1. Semiconductor industry

Hexaborosilicate is a key raw material for semiconductor device manufacturing, used in the production of key materials such as electronic specialty gases. ?

## 2. Refractory materials

Used as an antioxidant additive for dolomite refractory materials (with an addition amount of about 4%), it can improve high temperature resistance. ?

## 3. Industrial applications

Gas turbine blades: Manufacturing gas turbine blades, seals, and shaped sintered parts. ?

Engineering ceramics: As an engineering ceramic material, it is used to manufacture components such as sandblasting nozzles. ?

Metal smelting: used as a deoxidizer in metal smelting, such as a degassing agent in copper smelting.

High purity hexaboride silicon belongs to a segmented product of advanced boride ceramic materials, with a relatively small overall market size but high technological added value. With the increasing demand for high-temperature structural materials, electronic functional materials, and semiconductor equipment materials, the demand for high-purity boride materials is gradually increasing, driving the stable growth of the high-purity hexaboride silicon market. At the same time, the production of this product requires high-temperature synthesis and high-purity powder control technology, which has a high technical threshold in the industry and a limited number of global production enterprises. The current market supply is mainly concentrated in regions such as China, the United States, Japan, and Europe. Overall, with the development of advanced ceramics, electronic materials, and high-end manufacturing industries, high-purity silicon hexaboride still has certain development potential in the field of high-performance materials.

This report is a detailed and comprehensive analysis for global High Purity Silicon Hexaboride market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

**Key Features:**

Global High Purity Silicon Hexaboride market size and forecasts, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Kg), 2021-2032

Global High Purity Silicon Hexaboride market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Kg), 2021-2032

Global High Purity Silicon Hexaboride market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Kg), 2021-2032

Global High Purity Silicon Hexaboride market shares of main players, shipments in revenue (\$ Million), sales quantity (Tons), and ASP (US\$/Kg), 2021-2026

**The Primary Objectives in This Report Are:**

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for High Purity Silicon Hexaboride

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global High Purity Silicon Hexaboride market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include SAT Nano Technology Material, Stanford Advanced Materials, Baoding Pengda New Materials Technology, Jinzhou Haixin Metal Materials, Zhejiang Yamei Nano Technology, Jiamai (Liaoning) New Materials, Taifeng New Cera, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

**Market Segmentation**

High Purity Silicon Hexaboride market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and

value. This analysis can help you expand your business by targeting qualified niche markets.

#### Market segment by Type

Purity 2N

Purity 3N

#### Market segment by Particle Size

Particle Size

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