

# Boron Nitride and Boron Carbide: Market Research Report

<https://marketpublishers.com/r/B01B6BA1047EN.html>

Date: January 2019

Pages: 128

Price: US\$ 5,450.00 (Single User License)

ID: B01B6BA1047EN

## Abstracts

This report analyzes the worldwide markets for Boron Nitride and Boron Carbide in Metric Tons by the following Product Segments: Boron Nitride, and Boron Carbide.

The report provides separate comprehensive analytics for the US, Japan, Europe, and Rest of World. Annual estimates and forecasts are provided for the period 2015 through 2022. Also, a six-year historic analysis is provided for these markets. Market data and analytics are derived from primary and secondary research.

Company profiles are primarily based on public domain information including company URLs. The report profiles 34 companies including many key and niche players such as -

3M Company

Denka Co., Ltd.

Element Six

ILJIN Diamond Co., Ltd.

Momentive

Mudanjiang Jingangzuan Boron Carbide Co., Ltd.

## Contents

### 1. INTRODUCTION, METHODOLOGY & PRODUCT DEFINITIONS

### 2. INDUSTRY OVERVIEW

Boron Nitride and Boron Carbide: End-Use Market Dynamics Shape Growth Trends  
Global Boron Reserves, Production & Demand – An Overview

**Table 1.** Boron Reserves in Major Countries Worldwide (As of 2018) (in '000 Metric Tons) (includes corresponding Graph/Chart)

**Table 2.** World Boron Production (All Forms): Breakdown by Major Producing Countries for 2017 (in '000 Metric Tons) (includes corresponding Graph/Chart)

**Table 3.** World Boron Market (2017): Percentage Share Breakdown of Volume Demand by Application (includes corresponding Graph/Chart)

**Table 4.** World Boron Nitride Market (2017): Percentage Share Breakdown of Boron Nitride Powder Consumption Volume by Application Area (includes corresponding Graph/Chart)

CBN Films Market Overview

Nano Boron Carbide Market Outlook

Hexagonal Boron Nitride Market: Expanding Industrial Applications to Favor Growth  
Improving Economy Buys General Market Optimism

**Table 5.** World Real GDP Growth Rates in % by Country/Region for the Period 2017-2019 (includes corresponding Graph/Chart)

Market to Draw Growth from Improving Prospects in Manufacturing Industry

**Table 6.** Global Purchasing Managers Index (PMI): Monthly Manufacturing PMI Data by Country for the Period May 2017 to Apr 2018 (includes corresponding Graph/Chart)

### 3. MARKET TRENDS, ISSUES & DRIVERS

CBN: Increasing Use as Diamond Substitute  
Growing Demand for Super Abrasives Fuelling CBN Market  
Innumerable Material Attributes Foster CBN & PCBN Applications  
Comparative Analysis of Filler Properties (BN, Al<sub>2</sub>O<sub>3</sub>, AlN, Fused SiO<sub>2</sub>)  
CBN Abrasives to Climb Growth Ladder as Grinding Usage Soars  
Developments in CBN Grinding  
High Speed Grinding (HSG)  
Continuous Path Controlled (CPC) Grinding  
CBN and Diamond Replace Aluminum Oxide Tools

**Table 7.** Knoop Hardness of Tooling Materials such as Diamond, Cubic Boron Nitride, Vanadium Carbide, Silicon Carbide, Aluminum Oxide, Tungsten Carbide, Hard Steel HRC 65 and Soft Steel HRB 85 - (in x 103) (includes corresponding Graph/Chart)

Metal Cutting Tools: A Key End-Use Market  
Automotive Industry – A Key Growth Area

**Table 8.** World Passenger Car Production by Geographic Region/Country (2016 & 2017) (in '000 Units) (includes corresponding Graph/Chart)

**Table 9.** World Light Commercial Vehicles Production by Geographic Region/Country (2016 & 2017) (in '000 units) (includes corresponding Graph/Chart)

Boron Nitride Nanotubes Vs Carbon Nanotubes  
Opportunities for Boron Nitride in Electronic Components Market

**Table 10.** Global Electronic Components Market (2017): Percentage Breakdown of Value Sales by Application Area (includes corresponding Graph/Chart)

Graphene-Boron Nitride Suturing Ushers in Breakthrough Technology for Electronics  
Boron Nitride in Cosmetic Products  
Boron Nitride Nanotubes (BNNTs): A Super-Light, Heat-Resistant Material Emerges as the Next Big Thing  
Boron Nitride Injects Fresh Optimism into Cancer Treatment  
Boron Nitride Nanocage – A High Performance Filter

Q-BN, a New Phase of Boron Nitride: Potential Applications in Cutting Tools & Displays  
Boron Carbide Dazzles on the Pyrotechnics Landscape  
Pyrolytic Boron Nitride Replacing Quartz Crystal

#### **4. TECHNOLOGY DEVELOPMENTS – A GLANCE AT PAST INNOVATIONS**

Recent Advancements – Synthesis of 2D Hexagonal Boron Nitride  
Hexagonal Boron Nitride – Potential Substrate for Graphene Devices with High Heat Dissipation  
Boron Nitride to Make Zigzag-Edged Graphene Nanoribbons  
Researchers Develop a New Method to Produce C-BN  
New Boron Carbide Production Method Aims to Lower Production Costs  
Simplified Process Developed for h-BN Production  
New Process Improves Relative Density & Ballistic Performance of Boron Carbide Armor  
CBN Films for Advanced Machining  
Mass Selected Ion Beam Deposition  
New Technique Increases Yield of Nanotubes  
BN Films Over Carbon Fibers  
Spherical Boron Nitride – Better Composite Materials  
New Boron Nitride Processing Technique  
BN Nanotubes Strengthen Coatings  
New Process Optimizes CBN Film Synthesis  
New Compound to Replace CBN

#### **5. PRODUCT OVERVIEW**

Boron: An Introduction  
Boron Nitride  
Product Description  
Features  
Production Process  
End Use Applications  
Newer Applications of BN Coatings  
BN Powder Widely Applied as an Additive  
Cubic Boron Nitride  
Product Description  
Properties  
Applications

Investment Costs  
Alternatives and Combinations  
The 'Plasticky' Generation  
Product Segments  
Hexagonal Boron Nitride  
Hot-Pressed Boron Nitride  
Features  
Applications  
Wurtzite Boron Nitride  
Pyrolytic Boron Nitride  
Boron Carbide  
Product Description  
Properties  
Production Process  
Features  
Applications  
Ceramics  
Other Applications  
Boron Carbide Nanoparticles Offer Multi-Pronged Benefits  
Boron Based Materials  
Features of Boron Based Ceramics  
Process of Borodizing

## **6. COMPETITIVE LANDSCAPE**

### 6.1 Focus on Select Global Players

#### **3M COMPANY (USA)**

#### **3M TECHNICAL CERAMICS (GERMANY)**

Denka Co., Ltd. (Japan)  
Element Six (UK)  
ILJIN Diamond Co., Ltd (South Korea)  
Momentive (USA)  
Mudanjiang Jingangzuan Boron Carbide Co., Ltd (China)  
Saint-Gobain S. A. (France)  
Sandvik Hyperion (USA)  
Shin-Etsu Chemical Co., Ltd. (Japan)

Showa Denko KK (Japan)

Tomei Diamond Co., Ltd. (Japan)

Washington Mills Electro Minerals Company (USA)

6.2 Product Innovations/Introductions

Saint-Gobain Boron Nitride Rolls Out SiZBN

Thomas Swan Introduces 2D Boron Nitride Products

Saint-Gobain Unveils Boron Nitride Products Portfolio

BCL Introduces Boron Nitrate

## 7. GLOBAL MARKET PERSPECTIVE

**Table 11.** World Recent Past, Current & Future Analysis for Boron Nitride and Boron Carbide by Geographic Region - US, Japan, Europe and Rest of World Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 12.** World Historic Review for Boron Nitride and Boron Carbide by Geographic Region - US, Japan, Europe and Rest of World Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 13.** World 14-Year Perspective for Boron Nitride and Boron Carbide by Geographic Region - Percentage Breakdown of Consumption Volume for US, Japan, Europe and Rest of World Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

**Table 14.** World Recent Past, Current & Future Analysis for Boron Nitride by Geographic Region - US, Japan, Europe and Rest of World Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 15.** World Historic Review for Boron Nitride by Geographic Region - US, Japan, Europe and Rest of World Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 16.** World 14-Year Perspective for Boron Nitride by Geographic Region - Percentage Breakdown of Consumption Volume for US, Japan, Europe and Rest of

World Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

**Table 17.** World Recent Past, Current & Future Analysis for Boron Carbide by Geographic Region - US, Japan, Europe and Rest of World Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 18.** World Historic Review for Boron Carbide by Geographic Region - US, Japan, Europe and Rest of World Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 19.** World 14-Year Perspective for Boron Carbide by Geographic Region - Percentage Breakdown of Consumption Volume for US, Japan, Europe and Rest of World Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

## **8. REGIONAL MARKET PERSPECTIVE**

### 8.1 The United States

#### A. Market Analysis

##### Current and Future Analysis

**Table 20.** US Market for Boron Compounds (2017): Percentage Breakdown of Consumption Volume by Major End-Use Segments (includes corresponding Graph/Chart)

#### B. Market Analytics

**Table 21.** US Recent Past, Current & Future Analysis for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 22.** US Historic Review for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 23.** US 14-Year Perspective for Boron Nitride and Boron Carbide by Product Segment - Percentage Breakdown of Consumption Volume for Boron Nitride and Boron Carbide Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

## 8.2 Japan Market Analysis

**Table 24.** Japanese Recent Past, Current & Future Analysis for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 25.** Japanese Historic Review for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 26.** Japanese 14-Year Perspective for Boron Nitride and Boron Carbide by Product Segment - Percentage Breakdown of Consumption Volume for Boron Nitride and Boron Carbide Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

## 8.3 Europe Market Analysis

**Table 27.** European Recent Past, Current & Future Analysis for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 28.** European Historic Review for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 29.** European 14-Year Perspective for Boron Nitride and Boron Carbide by Product Segment - Percentage Breakdown of Consumption Volume for Boron Nitride



and Boron Carbide Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

#### 8.4 Rest of World

##### A. Market Analysis

##### Current and Future Analysis

##### China: An Insight into Boron Carbide Market

##### B. Market Analytics

**Table 30.** Rest of World Recent Past, Current & Future Analysis for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2015 through 2022 (includes corresponding Graph/Chart)

**Table 31.** Rest of World Historic Review for Boron Nitride and Boron Carbide by Product Segment - Boron Nitride and Boron Carbide Markets Independently Analyzed with Annual Consumption Figures in Metric Tons for Years 2009 through 2014 (includes corresponding Graph/Chart)

**Table 32.** Rest of World 14-Year Perspective for Boron Nitride and Boron Carbide by Product Segment - Percentage Breakdown of Consumption Volume for Boron Nitride and Boron Carbide Markets for Years 2009, 2018 & 2022 (includes corresponding Graph/Chart)

## 9. COMPANY PROFILES

Total Companies Profiled: 34 (including Divisions/Subsidiaries - 38)

The United States (19)

Canada (1)

Japan (5)

Europe (7)

France (1)

Germany (3)

The United Kingdom (2)

Rest of Europe (1)

Asia-Pacific (Excluding Japan) (6)

## I would like to order

Product name: Boron Nitride and Boron Carbide: Market Research Report

Product link: <https://marketpublishers.com/r/B01B6BA1047EN.html>

Price: US\$ 5,450.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/B01B6BA1047EN.html>