

Semiconductor Materials Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

<https://marketpublishers.com/r/S7B0C281CDCFEN.html>

Date: June 2023

Pages: 142

Price: US\$ 2,499.00 (Single User License)

ID: S7B0C281CDCFEN

Abstracts

Market Overview:

The global semiconductor materials market size reached US\$ 53.8 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 62.7 Billion by 2028, exhibiting a growth rate (CAGR) of 3.9% during 2023-2028.

Semiconductor materials have an electrical conductivity range between that of a metal and an insulator. As a result, they neither demonstrate the properties of a conductor nor an insulator. However, they acquire the potential of conducting electricity when they are exposed to light, heat, or voltage post the doping process. This process involves the incorporation of small amounts of impurities to pure semiconductors. Semiconductor materials are generally divided into two categories, namely, N-type and P-type. The N-type semiconductors have an excess of electrons, whereas the P-type materials have a higher positive charge. Semiconductor materials show variable resistance and they pass current easily in one direction.

Semiconductor materials represent one of the essential innovations in the electronics industry. This can be accredited to their high electron mobility, wide temperature limits and low energy consumption. By employing material such as silicon (Si), germanium (Ge) and gallium arsenide (GaAs), electronics manufacturers have been able to replace traditional thermionic devices that made electronic items heavy and non-portable. Consequently, these materials find vast applications in the manufacturing of different electronic components such as diodes, transistors and integrated chips. In addition to this, the availability of these small electronic components has further facilitated the production of miniaturized devices. Additionally, the industry is benefitting from the

advent of the Internet of Things (IoT) and the growing demand for consumer electronics, such as smartphones, laptops and tablets.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global semiconductor materials market report, along with forecasts at the global and regional level from 2023-2028. Our report has categorized the market based on material, application and end use industry.

Breakup by Material:

- Silicon Carbide
- Gallium Manganese Arsenide
- Copper Indium Gallium Selenide
- Molybdenum Disulfide
- Bismuth Telluride

Breakup by Application:

Fabrication

- Silicon Wafers
- Electronic gases
- Photomasks
- Photoresist ancillaries
- CMP Materials
- Photoresists
- Wet chemicals
- Others

Packaging

- Leadframes
- Organic Substrates
- Ceramic Packages
- Encapsulation Resins
- Bonding Wires
- Die-Attach Materials

Others

Breakup by End Use Industry:

Consumer Electronics

Manufacturing

Automotive

Energy and Utility

Others

Breakup by Region:

North America

Europe

Asia Pacific

Middle East and Africa

Latin America

Competitive Landscape:

The report has also analysed the competitive landscape of the market with some of the key players being BASF SE, LG Chem Ltd, Indium Corporation, Hitachi Chemical Co. Ltd, KYOCERA Corporation, Henkel AG & Company KGAA, Sumitomo Chemical Co. Ltd, DuPont de Nemours Inc., International Quantum Epitaxy PLC., Nichia Corporation, Intel Corporation, UTAC Holdings Ltd, etc.

Key Questions Answered in This Report:

What is the expected growth rate of the global semiconductor materials market during 2023-2028?

What are the key factors driving the global semiconductor materials market?

What has been the impact of COVID-19 on the global semiconductor materials market?

What is the breakup of the global semiconductor materials market based on the material?

What is the breakup of the global semiconductor materials market based on the application?

What is the breakup of the global semiconductor materials market based on the end use industry?

What are the key regions in the global semiconductor materials market?

Who are the key players/companies in the global semiconductor materials market?

Contents

1 PREFACE

2 SCOPE AND METHODOLOGY

- 2.1 Objectives of the Study
- 2.2 Stakeholders
- 2.3 Data Sources
 - 2.3.1 Primary Sources
 - 2.3.2 Secondary Sources
- 2.4 Market Estimation
 - 2.4.1 Bottom-Up Approach
 - 2.4.2 Top-Down Approach
- 2.5 Forecasting Methodology

3 EXECUTIVE SUMMARY

4 INTRODUCTION

- 4.1 Overview
- 4.2 Key Industry Trends

5 GLOBAL SEMICONDUCTOR MATERIALS MARKET

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact of COVID-19
- 5.4 Market Breakup by Material
- 5.5 Market Breakup by Application
- 5.6 Market Breakup by End Use Industry
- 5.7 Market Breakup by Region
- 5.8 Market Forecast

6 MARKET BREAKUP BY MATERIAL

- 6.1 Silicon Carbide
 - 6.1.1 Market Trends
 - 6.1.2 Market Forecast

- 6.2 Gallium Manganese Arsenide
 - 6.2.1 Market Trends
 - 6.2.2 Market Forecast
- 6.3 Copper Indium Gallium Selenide
 - 6.3.1 Market Trends
 - 6.3.2 Market Forecast
- 6.4 Molybdenum Disulfide
 - 6.4.1 Market Trends
 - 6.4.2 Market Forecast
- 6.5 Bismuth Telluride
 - 6.5.1 Market Trends
 - 6.5.2 Market Forecast

7 MARKET BREAKUP BY APPLICATION

- 7.1 Fabrication
 - 7.1.1 Market Trends
 - 7.1.2 Market Breakup by Type
 - 7.1.2.1 Silicon Wafers
 - 7.1.2.2 Electronic Gases
 - 7.1.2.3 Photomasks
 - 7.1.2.4 Photoresist Ancillaries
 - 7.1.2.5 CMP Materials
 - 7.1.2.6 Photoresists
 - 7.1.2.7 Wet Chemicals
 - 7.1.2.8 Others
 - 7.1.3 Market Forecast
- 7.2 Packaging
 - 7.2.1 Market Trends
 - 7.2.2 Market Breakup by Type
 - 7.2.2.1 Leadframes
 - 7.2.2.2 Organic Substrates
 - 7.2.2.3 Ceramic Packages
 - 7.2.2.4 Encapsulation Resins
 - 7.2.2.5 Bonding Wires
 - 7.2.2.6 Die-Attach Materials
 - 7.2.2.7 Others
 - 7.2.3 Market Forecast

8 MARKET BREAKUP BY END USE INDUSTRY

8.1 Consumer Electronics

8.1.1 Market Trends

8.1.2 Market Forecast

8.2 Manufacturing

8.2.1 Market Trends

8.2.2 Market Forecast

8.3 Automotive

8.3.1 Market Trends

8.3.2 Market Forecast

8.4 Energy and Utility

8.4.1 Market Trends

8.4.2 Market Forecast

8.5 Others

8.5.1 Market Trends

8.5.2 Market Forecast

9 MARKET BREAKUP BY REGION

9.1 North America

9.1.1 Market Trends

9.1.2 Market Forecast

9.2 Europe

9.2.1 Market Trends

9.2.2 Market Forecast

9.3 Asia Pacific

9.3.1 Market Trends

9.3.2 Market Forecast

9.4 Middle East and Africa

9.4.1 Market Trends

9.4.2 Market Forecast

9.5 Latin America

9.5.1 Market Trends

9.5.2 Market Forecast

10 SWOT ANALYSIS

10.1 Overview

- 10.2 Strengths
- 10.3 Weaknesses
- 10.4 Opportunities
- 10.5 Threats

11 VALUE CHAIN ANALYSIS

12 PORTERS FIVE FORCES ANALYSIS

- 12.1 Overview
- 12.2 Bargaining Power of Buyers
- 12.3 Bargaining Power of Suppliers
- 12.4 Degree of Competition
- 12.5 Threat of New Entrants
- 12.6 Threat of Substitutes

13 PRICE ANALYSIS

14 COMPETITIVE LANDSCAPE

- 14.1 Market Structure
- 14.2 Key Players
- 14.3 Profiles of Key Players
 - 14.3.1 BASF SE
 - 14.3.2 LG Chem Ltd
 - 14.3.3 Indium Corporation
 - 14.3.4 Hitachi Chemical Co. Ltd
 - 14.3.5 KYOCERA Corporation
 - 14.3.6 Henkel AG & Company KGAA
 - 14.3.7 Sumitomo Chemical Co. Ltd
 - 14.3.8 DuPont de Nemours Inc.
 - 14.3.9 International Quantum Epitaxy PLC.
 - 14.3.10 Nichia Corporation
 - 14.3.11 Intel Corporation
 - 14.3.12 UTAC Holdings Ltd

List Of Tables

LIST OF TABLES

Table 1: Global: Semiconductor Materials Market: Key Industry Highlights, 2022 and 2028

Table 2: Global: Semiconductor Materials Market Forecast: Breakup by Material (in Million US\$), 2023-2028

Table 3: Global: Semiconductor Materials Market Forecast: Breakup by Application (in Million US\$), 2023-2028

Table 4: Global: Semiconductor Materials Market Forecast: Breakup by End Use Industry (in Million US\$), 2023-2028

Table 5: Global: Semiconductor Materials Market Forecast: Breakup by Region (in Million US\$), 2023-2028

Table 6: Global: Semiconductor Materials Market Structure

Table 7: Global: Semiconductor Materials Market: Key Players

List Of Figures

LIST OF FIGURES

Figure 1: Global: Semiconductor Materials Market: Major Drivers and Challenges

Figure 2: Global: Semiconductor Materials Market: Sales Value (in Billion US\$), 2017-2022

Figure 3: Global: Semiconductor Materials Market: Breakup by Material (in %), 2022

Figure 4: Global: Semiconductor Materials Market: Breakup by Application (in %), 2022

Figure 5: Global: Semiconductor Materials Market: Breakup by End Use Industry (in %), 2022

Figure 6: Global: Semiconductor Materials Market: Breakup by Region (in %), 2022

Figure 7: Global: Semiconductor Materials Market Forecast: Sales Value (in Billion US\$), 2023-2028

Figure 8: Global: Semiconductor Materials Industry: SWOT Analysis

Figure 9: Global: Semiconductor Materials Industry: Value Chain Analysis

Figure 10: Global: Semiconductor Materials Industry: Porter's Five Forces Analysis

Figure 11: Global: Semiconductor Materials (Silicon Carbide) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 12: Global: Semiconductor Materials (Silicon Carbide) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 13: Global: Semiconductor Materials (Gallium Manganese Arsenide) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 14: Global: Semiconductor Materials (Gallium Manganese Arsenide) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 15: Global: Semiconductor Materials (Copper Indium Gallium Selenide) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 16: Global: Semiconductor Materials (Copper Indium Gallium Selenide) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 17: Global: Semiconductor Materials (Molybdenum Disulfide) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 18: Global: Semiconductor Materials (Molybdenum Disulfide) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 19: Global: Semiconductor Materials (Bismuth Telluride) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 20: Global: Semiconductor Materials (Bismuth Telluride) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 21: Global: Semiconductor Materials (Fabrication) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 22: Global: Semiconductor Materials (Fabrication) Market: Breakup by Type (in %), 2022

Figure 23: Global: Semiconductor Materials (Fabrication) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 24: Global: Semiconductor Materials (Packaging) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 25: Global: Semiconductor Materials (Packaging) Market: Breakup by Type (in %), 2022

Figure 26: Global: Semiconductor Materials (Packaging) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 27: Global: Semiconductor Materials (Consumer Electronics) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 28: Global: Semiconductor Materials (Consumer Electronics) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 29: Global: Semiconductor Materials (Manufacturing) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 30: Global: Semiconductor Materials (Manufacturing) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 31: Global: Semiconductor Materials (Automotive) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 32: Global: Semiconductor Materials (Automotive) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 33: Global: Semiconductor Materials (Energy and Utility) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 34: Global: Semiconductor Materials (Energy and Utility) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 35: Global: Semiconductor Materials (Other Industries) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 36: Global: Semiconductor Materials (Other Industries) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 37: North America: Semiconductor Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 38: North America: Semiconductor Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 39: Europe: Semiconductor Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 40: Europe: Semiconductor Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 41: Asia Pacific: Semiconductor Materials Market: Sales Value (in Million US\$),

2017 & 2022

Figure 42: Asia Pacific: Semiconductor Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 43: Middle East and Africa: Semiconductor Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 44: Middle East and Africa: Semiconductor Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 45: Latin America: Semiconductor Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 46: Latin America: Semiconductor Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

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