

Carbon Tetrafluoride Global Market Insights 2025, Analysis and Forecast to 2030, by Manufacturers, Regions, Technology, Application

<https://marketpublishers.com/r/C204A863B15FEN.html>

Date: June 2025

Pages: 74

Price: US\$ 3,200.00 (Single User License)

ID: C204A863B15FEN

Abstracts

Carbon Tetrafluoride Market Summary

Introduction

Carbon tetrafluoride (CF₄) is a fluorocarbon gas used primarily in semiconductor etching and cleaning processes, valued for its stability and high etching precision. The industry is characterized by its focus on high-purity gases, compliance with environmental regulations, and integration with advanced semiconductor processes. Key trends include low-GWP alternatives, improved gas delivery systems, and increased use in 3D NAND and FinFET production. The market is driven by semiconductor industry growth, particularly in AI and 5G, with expansion in Asia Pacific, North America, and Europe.

Market Size and Growth Forecast

The global Carbon Tetrafluoride market was valued at USD 340–580 million in 2024, with an estimated CAGR of 6.5%–8.5% from 2025 to 2030, driven by semiconductor manufacturing demand.

Regional Analysis

Asia Pacific is projected to grow at a CAGR of 7.0%–9.0%, led by China, Taiwan, and South Korea, where semiconductor foundries drive CF₄ demand.

North America is expected to achieve a CAGR of 6.3%–8.3%, with the U.S. supporting

growth through domestic chip production.

Europe is anticipated to grow at a CAGR of 6.0%–8.0%, with Germany and the Netherlands emphasizing etching applications.

Rest of the World, including Singapore and Japan, is expected to grow at a CAGR of 5.8%–7.8%, with trends toward cleaning processes.

Application Analysis

Semiconductor etching applications are estimated to grow at a CAGR of 6.8%–8.8%, driven by CF₄'s use in plasma etching, with trends toward precision for sub-3nm nodes.

Semiconductor cleaning applications are projected to expand at a CAGR of 6.5%–8.5%, supported by chamber cleaning, with innovations in low-GWP gases.

Other applications, such as optics, are anticipated to grow at a CAGR of 6.0%–8.0%, driven by niche uses in surface treatment.

Key Market Players

Kanto Denka Kogyo, headquartered in Tokyo, Japan, produces high-purity CF₄ for semiconductor etching, known for its advanced gas purification technologies. Its R&D focuses on low-GWP alternatives, and its global supply chain supports foundries in Asia and beyond.

SK Specialty, based in Seoul, South Korea, supplies CF₄ for cleaning processes, emphasizing high-purity gas delivery systems. Its technical teams optimize gas performance for 3D NAND production, and its production facilities ensure reliability.

WONIK MATERIALS, headquartered in Gumi, South Korea, offers CF₄ for etching applications, focusing on precision for advanced nodes. Its innovation centers develop gas mixtures, and its customer support enhances process efficiency.

Fujian Deer Technology Corp, based in Fujian, China, produces CF₄ for semiconductor processes, known for cost-effective solutions. Its manufacturing plants support high-volume foundry needs, and its R&D drives gas purity improvements.

Jiangsu Yoke Technology, headquartered in Jiangsu, China, supplies CF4 for cleaning, emphasizing scalable production. Its technical services ensure compatibility with etching equipment, and its regional focus supports Chinese foundries.

Haohua Chemical Science & Technology, based in Chengdu, China, offers CF4 for etching, known for reliable supply. Its R&D focuses on gas delivery innovations, and its production aligns with environmental standards.

Porter's Five Forces Analysis

Threat of new entrants is low; high purity and regulatory barriers create challenges.

Threat of substitutes is moderate; alternative etching gases compete, but CF4's precision maintains its edge.

Buyer power is moderate; foundries negotiate pricing, but high-purity CF4 limits leverage.

Supplier power is moderate; fluorocarbon raw materials face supply constraints, increasing supplier influence.

Competitive rivalry is high; key players differentiate through purity, delivery systems, and environmental compliance.

Market Opportunities and Challenges

Opportunities

Growing semiconductor demand for AI and 5G drives CF4 adoption.

Advancements in low-GWP gases enhance market growth.

Government support for chip production offers expansion opportunities.

Challenges

Environmental regulations on fluorocarbons increase compliance costs.

Supply chain disruptions for raw materials hinder scalability.

Competition from alternative gases limits market share.

Growth Trend Analysis

The Carbon Tetrafluoride market is growing steadily, driven by semiconductor demand. Fujian Deer Technology Corp currently has a 2,000-tonne CF₄ capacity, Jiangsu Yoke Technology has 2,000 tonnes, and Haohua Chemical Science & Technology has 1,450 tonnes, indicating robust production to meet etching and cleaning needs. These capacities align with a projected CAGR of 6.5%–8.5% through 2030, reflecting the market's focus on advanced semiconductor processes.

Contents

Table of Contents

CHAPTER 1 EXECUTIVE SUMMARY

CHAPTER 2 ABBREVIATION AND ACRONYMS

CHAPTER 3 PREFACE

- 3.1 Research Scope
- 3.2 Research Sources
 - 3.2.1 Data Sources
 - 3.2.2 Assumptions
- 3.3 Research Method

CHAPTER 4 MARKET LANDSCAPE

- 4.1 Market Overview
- 4.2 Classification/Types
- 4.3 Application/End Users

CHAPTER 5 MARKET TREND ANALYSIS

- 5.1 Introduction
- 5.2 Drivers
- 5.3 Restraints
- 5.4 Opportunities
- 5.5 Threats

CHAPTER 6 INDUSTRY CHAIN ANALYSIS

- 6.1 Upstream/Suppliers Analysis
- 6.2 Carbon Tetrafluoride Analysis
 - 6.2.1 Technology Analysis
 - 6.2.2 Cost Analysis
 - 6.2.3 Market Channel Analysis
- 6.3 Downstream Buyers/End Users

CHAPTER 7 LATEST MARKET DYNAMICS

- 7.1 Latest News
- 7.2 Merger and Acquisition
- 7.3 Planned/Future Project
- 7.4 Policy Dynamics

CHAPTER 8 TRADING ANALYSIS

- 8.1 Export of Carbon Tetrafluoride by Region
- 8.2 Import of Carbon Tetrafluoride by Region
- 8.3 Balance of Trade

CHAPTER 9 HISTORICAL AND FORECAST CARBON TETRAFLUORIDE MARKET IN NORTH AMERICA (2020-2030)

- 9.1 Carbon Tetrafluoride Market Size
- 9.2 Carbon Tetrafluoride Demand by End Use
- 9.3 Competition by Players/Suppliers
- 9.4 Type Segmentation and Price
- 9.5 Key Countries Analysis
 - 9.5.1 United States
 - 9.5.2 Canada
 - 9.5.3 Mexico

CHAPTER 10 HISTORICAL AND FORECAST CARBON TETRAFLUORIDE MARKET IN SOUTH AMERICA (2020-2030)

- 10.1 Carbon Tetrafluoride Market Size
- 10.2 Carbon Tetrafluoride Demand by End Use
- 10.3 Competition by Players/Suppliers
- 10.4 Type Segmentation and Price
- 10.5 Key Countries Analysis
 - 10.5.1 Brazil
 - 10.5.2 Argentina
 - 10.5.3 Chile
 - 10.5.4 Peru

CHAPTER 11 HISTORICAL AND FORECAST CARBON TETRAFLUORIDE MARKET

IN ASIA & PACIFIC (2020-2030)

- 11.1 Carbon Tetrafluoride Market Size
- 11.2 Carbon Tetrafluoride Demand by End Use
- 11.3 Competition by Players/Suppliers
- 11.4 Type Segmentation and Price
- 11.5 Key Countries Analysis
 - 11.5.1 China
 - 11.5.2 India
 - 11.5.3 Japan
 - 11.5.4 South Korea
 - 11.5.5 Southeast Asia
 - 11.5.6 Australia

CHAPTER 12 HISTORICAL AND FORECAST CARBON TETRAFLUORIDE MARKET IN EUROPE (2020-2030)

- 12.1 Carbon Tetrafluoride Market Size
- 12.2 Carbon Tetrafluoride Demand by End Use
- 12.3 Competition by Players/Suppliers
- 12.4 Type Segmentation and Price
- 12.5 Key Countries Analysis
 - 12.5.1 Germany
 - 12.5.2 France
 - 12.5.3 United Kingdom
 - 12.5.4 Italy
 - 12.5.5 Spain
 - 12.5.6 Belgium
 - 12.5.7 Netherlands
 - 12.5.8 Austria
 - 12.5.9 Poland
 - 12.5.10 Russia

CHAPTER 13 HISTORICAL AND FORECAST CARBON TETRAFLUORIDE MARKET IN MEA (2020-2030)

- 13.1 Carbon Tetrafluoride Market Size
- 13.2 Carbon Tetrafluoride Demand by End Use
- 13.3 Competition by Players/Suppliers

13.4 Type Segmentation and Price

13.5 Key Countries Analysis

13.5.1 Egypt

13.5.2 Israel

13.5.3 South Africa

13.5.4 Gulf Cooperation Council Countries

13.5.5 Turkey

CHAPTER 14 SUMMARY FOR GLOBAL CARBON TETRAFLUORIDE MARKET (2020-2025)

14.1 Carbon Tetrafluoride Market Size

14.2 Carbon Tetrafluoride Demand by End Use

14.3 Competition by Players/Suppliers

14.4 Type Segmentation and Price

CHAPTER 15 GLOBAL CARBON TETRAFLUORIDE MARKET FORECAST (2025-2030)

15.1 Carbon Tetrafluoride Market Size Forecast

15.2 Carbon Tetrafluoride Demand Forecast

15.3 Competition by Players/Suppliers

15.4 Type Segmentation and Price Forecast

CHAPTER 16 ANALYSIS OF GLOBAL KEY VENDORS

16.1 Kanto Denka Kogyo

16.1.1 Company Profile

16.1.2 Main Business and Carbon Tetrafluoride Information

16.1.3 SWOT Analysis of Kanto Denka Kogyo

16.1.4 Kanto Denka Kogyo Carbon Tetrafluoride Sales, Revenue, Price and Gross Margin (2020-2025)

16.2 SK specialty

16.2.1 Company Profile

16.2.2 Main Business and Carbon Tetrafluoride Information

16.2.3 SWOT Analysis of SK specialty

16.2.4 SK specialty Carbon Tetrafluoride Sales, Revenue, Price and Gross Margin (2020-2025)

Please ask for sample pages for full companies list

Tables & Figures

TABLES AND FIGURES

Table Abbreviation and Acronyms List
Table Research Scope of Carbon Tetrafluoride Report
Table Data Sources of Carbon Tetrafluoride Report
Table Major Assumptions of Carbon Tetrafluoride Report
Figure Market Size Estimated Method
Figure Major Forecasting Factors
Figure Carbon Tetrafluoride Picture
Table Carbon Tetrafluoride Classification
Table Carbon Tetrafluoride Applications List
Table Drivers of Carbon Tetrafluoride Market
Table Restraints of Carbon Tetrafluoride Market
Table Opportunities of Carbon Tetrafluoride Market
Table Threats of Carbon Tetrafluoride Market
Table Raw Materials Suppliers List
Table Different Production Methods of Carbon Tetrafluoride
Table Cost Structure Analysis of Carbon Tetrafluoride
Table Key End Users List
Table Latest News of Carbon Tetrafluoride Market
Table Merger and Acquisition List
Table Planned/Future Project of Carbon Tetrafluoride Market
Table Policy of Carbon Tetrafluoride Market
Table 2020-2030 Regional Export of Carbon Tetrafluoride
Table 2020-2030 Regional Import of Carbon Tetrafluoride
Table 2020-2030 Regional Trade Balance
Figure 2020-2030 Regional Trade Balance
Table 2020-2030 North America Carbon Tetrafluoride Market Size and Market Volume List
Figure 2020-2030 North America Carbon Tetrafluoride Market Size and CAGR
Figure 2020-2030 North America Carbon Tetrafluoride Market Volume and CAGR
Table 2020-2030 North America Carbon Tetrafluoride Demand List by Application
Table 2020-2025 North America Carbon Tetrafluoride Key Players Sales List
Table 2020-2025 North America Carbon Tetrafluoride Key Players Market Share List
Table 2020-2030 North America Carbon Tetrafluoride Demand List by Type
Table 2020-2025 North America Carbon Tetrafluoride Price List by Type
Table 2020-2030 United States Carbon Tetrafluoride Market Size and Market Volume

List

Table 2020-2030 United States Carbon Tetrafluoride Import & Export List

Table 2020-2030 Canada Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Canada Carbon Tetrafluoride Import & Export List

Table 2020-2030 Mexico Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Mexico Carbon Tetrafluoride Import & Export List

Table 2020-2030 South America Carbon Tetrafluoride Market Size and Market Volume List

Figure 2020-2030 South America Carbon Tetrafluoride Market Size and CAGR

Figure 2020-2030 South America Carbon Tetrafluoride Market Volume and CAGR

Table 2020-2030 South America Carbon Tetrafluoride Demand List by Application

Table 2020-2025 South America Carbon Tetrafluoride Key Players Sales List

Table 2020-2025 South America Carbon Tetrafluoride Key Players Market Share List

Table 2020-2030 South America Carbon Tetrafluoride Demand List by Type

Table 2020-2025 South America Carbon Tetrafluoride Price List by Type

Table 2020-2030 Brazil Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Brazil Carbon Tetrafluoride Import & Export List

Table 2020-2030 Argentina Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Argentina Carbon Tetrafluoride Import & Export List

Table 2020-2030 Chile Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Chile Carbon Tetrafluoride Import & Export List

Table 2020-2030 Peru Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Peru Carbon Tetrafluoride Import & Export List

Table 2020-2030 Asia & Pacific Carbon Tetrafluoride Market Size and Market Volume List

Figure 2020-2030 Asia & Pacific Carbon Tetrafluoride Market Size and CAGR

Figure 2020-2030 Asia & Pacific Carbon Tetrafluoride Market Volume and CAGR

Table 2020-2030 Asia & Pacific Carbon Tetrafluoride Demand List by Application

Table 2020-2025 Asia & Pacific Carbon Tetrafluoride Key Players Sales List

Table 2020-2025 Asia & Pacific Carbon Tetrafluoride Key Players Market Share List

Table 2020-2030 Asia & Pacific Carbon Tetrafluoride Demand List by Type

Table 2020-2025 Asia & Pacific Carbon Tetrafluoride Price List by Type

Table 2020-2030 China Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 China Carbon Tetrafluoride Import & Export List

Table 2020-2030 India Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 India Carbon Tetrafluoride Import & Export List

Table 2020-2030 Japan Carbon Tetrafluoride Market Size and Market Volume List

Table 2020-2030 Japan Carbon Tetrafluoride Import & Export List

Table 2020-2030 South Korea Carbon Tetrafluoride Market Size and Market Volume

List

Table 2020-2030 South Korea Carbon Tetrafluoride Import & Export List
Table 2020-2030 Southeast Asia Carbon Tetrafluoride Market Size List
Table 2020-2030 Southeast Asia Carbon Tetrafluoride Market Volume List
Table 2020-2030 Southeast Asia Carbon Tetrafluoride Import List
Table 2020-2030 Southeast Asia Carbon Tetrafluoride Export List
Table 2020-2030 Australia Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Australia Carbon Tetrafluoride Import & Export List
Table 2020-2030 Europe Carbon Tetrafluoride Market Size and Market Volume List
Figure 2020-2030 Europe Carbon Tetrafluoride Market Size and CAGR
Figure 2020-2030 Europe Carbon Tetrafluoride Market Volume and CAGR
Table 2020-2030 Europe Carbon Tetrafluoride Demand List by Application
Table 2020-2025 Europe Carbon Tetrafluoride Key Players Sales List
Table 2020-2025 Europe Carbon Tetrafluoride Key Players Market Share List
Table 2020-2030 Europe Carbon Tetrafluoride Demand List by Type
Table 2020-2025 Europe Carbon Tetrafluoride Price List by Type
Table 2020-2030 Germany Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Germany Carbon Tetrafluoride Import & Export List
Table 2020-2030 France Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 France Carbon Tetrafluoride Import & Export List
Table 2020-2030 United Kingdom Carbon Tetrafluoride Market Size and Market Volume List
List
Table 2020-2030 United Kingdom Carbon Tetrafluoride Import & Export List
Table 2020-2030 Italy Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Italy Carbon Tetrafluoride Import & Export List
Table 2020-2030 Spain Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Spain Carbon Tetrafluoride Import & Export List
Table 2020-2030 Belgium Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Belgium Carbon Tetrafluoride Import & Export List
Table 2020-2030 Netherlands Carbon Tetrafluoride Market Size and Market Volume List
List
Table 2020-2030 Netherlands Carbon Tetrafluoride Import & Export List
Table 2020-2030 Austria Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Austria Carbon Tetrafluoride Import & Export List
Table 2020-2030 Poland Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Poland Carbon Tetrafluoride Import & Export List
Table 2020-2030 Russia Carbon Tetrafluoride Market Size and Market Volume List
Table 2020-2030 Russia Carbon Tetrafluoride Import & Export List
Table 2020-2030 MEA Carbon Tetrafluoride Market Size and Market Volume List

Figure 2020-2030 MEA Carbon Tetrafluoride Market Size and CAGR	
Figure 2020-2030 MEA Carbon Tetrafluoride Market Volume and CAGR	
Table 2020-2030 MEA Carbon Tetrafluoride Demand List by Application	
Table 2020-2025 MEA Carbon Tetrafluoride Key Players Sales List	
Table 2020-2025 MEA Carbon Tetrafluoride Key Players Market Share List	
Table 2020-2030 MEA Carbon Tetrafluoride Demand List by Type	
Table 2020-2025 MEA Carbon Tetrafluoride Price List by Type	
Table 2020-2030 Egypt Carbon Tetrafluoride Market Size and Market Volume List	
Table 2020-2030 Egypt Carbon Tetrafluoride Import & Export List	
Table 2020-2030 Israel Carbon Tetrafluoride Market Size and Market Volume List	
Table 2020-2030 Israel Carbon Tetrafluoride Import & Export List	
Table 2020-2030 South Africa Carbon Tetrafluoride Market Size and Market Volume List	
Table 2020-2030 South Africa Carbon Tetrafluoride Import & Export List	
Table 2020-2030 Gulf Cooperation Council Countries Carbon Tetrafluoride Market Size and Market Volume List	
Table 2020-2030 Gulf Cooperation Council Countries Carbon Tetrafluoride Import & Export List	
Table 2020-2030 Turkey Carbon Tetrafluoride Market Size and Market Volume List	
Table 2020-2030 Turkey Carbon Tetrafluoride Import & Export List	
Table 2020-2025 Global Carbon Tetrafluoride Market Size List by Region	
Table 2020-2025 Global Carbon Tetrafluoride Market Size Share List by Region	
Table 2020-2025 Global Carbon Tetrafluoride Market Volume List by Region	
Table 2020-2025 Global Carbon Tetrafluoride Market Volume Share List by Region	
Table 2020-2025 Global Carbon Tetrafluoride Demand List by Application	
Table 2020-2025 Global Carbon Tetrafluoride Demand Market Share List by Application	
Table 2020-2025 Global Carbon Tetrafluoride Capacity List	
Table 2020-2025 Global Carbon Tetrafluoride Key Vendors Capacity Share List	
Table 2020-2025 Global Carbon Tetrafluoride Key Vendors Production List	
Table 2020-2025 Global Carbon Tetrafluoride Key Vendors Production Share List	
Figure 2020-2025 Global Carbon Tetrafluoride Capacity Production and Growth Rate	
Table 2020-2025 Global Carbon Tetrafluoride Key Vendors Production Value List	
Figure 2020-2025 Global Carbon Tetrafluoride Production Value and Growth Rate	
Table 2020-2025 Global Carbon Tetrafluoride Key Vendors Production Value Share List	
Table 2020-2025 Global Carbon Tetrafluoride Demand List by Type	
Table 2020-2025 Global Carbon Tetrafluoride Demand Market Share List by Type	
Table 2020-2025 Regional Carbon Tetrafluoride Price List	
Table 2025-2030 Global Carbon Tetrafluoride Market Size List by Region	
Table 2025-2030 Global Carbon Tetrafluoride Market Size Share List by Region	

Table 2025-2030 Global Carbon Tetrafluoride Market Volume List by Region
Table 2025-2030 Global Carbon Tetrafluoride Market Volume Share List by Region
Table 2025-2030 Global Carbon Tetrafluoride Demand List by Application
Table 2025-2030 Global Carbon Tetrafluoride Demand Market Share List by Application
Table 2025-2030 Global Carbon Tetrafluoride Capacity List
Table 2025-2030 Global Carbon Tetrafluoride Key Vendors Capacity Share List
Table 2025-2030 Global Carbon Tetrafluoride Key Vendors Production List
Table 2025-2030 Global Carbon Tetrafluoride Key Vendors Production Share List
Figure 2025-2030 Global Carbon Tetrafluoride Capacity Production and Growth Rate
Table 2025-2030 Global Carbon Tetrafluoride Key Vendors Production Value List
Figure 2025-2030 Global Carbon Tetrafluoride Production Value and Growth Rate
Table 2025-2030 Global Carbon Tetrafluoride Key Vendors Production Value Share List
Table 2025-2030 Global Carbon Tetrafluoride Demand List by Type
Table 2025-2030 Global Carbon Tetrafluoride Demand Market Share List by Type
Table 2025-2030 Carbon Tetrafluoride Regional Price List
Table Kanto Denka Kogyo Information
Table SWOT Analysis of Kanto Denka Kogyo
Table 2020-2025 Kanto Denka Kogyo Carbon Tetrafluoride Product Capacity
Production Price Cost Production Value
Figure 2020-2025 Kanto Denka Kogyo Carbon Tetrafluoride Capacity Production and
Growth Rate
Figure 2020-2025 Kanto Denka Kogyo Carbon Tetrafluoride Market Share
Table SK specialty Information
Table SWOT Analysis of SK specialty
Table 2020-2025 SK specialty Carbon Tetrafluoride Product Capacity Production Price
Cost Production Value
Figure 2020-2025 SK specialty Carbon Tetrafluoride Capacity Production and Growth
Rate
Figure 2020-2025 SK specialty Carbon Tetrafluoride Market Share
.....

I would like to order

Product name: Carbon Tetrafluoride Global Market Insights 2025, Analysis and Forecast to 2030, by Manufacturers, Regions, Technology, Application

Product link: <https://marketpublishers.com/r/C204A863B15FEN.html>

Price: US\$ 3,200.00 (Single User License / Electronic Delivery)

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

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/C204A863B15FEN.html>