+357 96 030922
info@marketpublishers.com

Nitrogen Trifluoride (NF3) Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2024–2032

https://marketpublishers.com/r/N12B0108E4F2EN.html
Date: September 2024
Pages: 200
Price: US$ 4,365.00 (Single User License)
ID: N12B0108E4F2EN

Abstracts

The Global Nitrogen Trifluoride (NF3) Market reached a valuation of USD 1.68 billion in 2023 and is projected to indicate a CAGR of 11.7% from 2024 to 2032. The surge in NF3 demand, predominantly driven by its role as a chamber cleaning gas in industries such as semiconductors, flat panel displays, LEDs, and solar PV cells, is set to propel the growth of the nitrogen trifluoride market. North America's nitrogen trifluoride market is bolstered by a well-established semiconductor industry, high disposable incomes, and significant investments in electronics R&D. The overall nitrogen trifluoride (NF3) industry is classified based on application, and region. The Semiconductor segment is projected to reach USD 2.36 billion, with an 11.3% CAGR by 2032, primarily due to the rising use of NF3 in clean process chambers.

NF3 gas plays a crucial role in ensuring the efficient operation of chambers by removing residues from thin layers of semiconductive films applied to wafers. The longevity of fluorine radicals produced in plasma enhances NF3's efficiency as a cleaner, making it easier and safer to handle while also contributing to reduced greenhouse gas emissions. The Flat Panel Display segment is poised for gains exceeding 16%, driven by the expanding flat panel display sector's demand for high-purity NF3 gases. NF3's role in chamber cleaning not only boosts cost-effectiveness and environmental efficiency in display manufacturing but also supports the advancement of next-generation display technologies, further fueling nitrogen trifluoride market demand.

North America's nitrogen trifluoride (NF3) industry is on track to reach USD 3.28 billion, with a projected CAGR of 10.8% from 2024 to 2032. This growth is attributed to the region's established semiconductor, LED, and solar PV cell manufacturing sectors. Coupled with high disposable incomes and significant spending on consumer electronics, these factors are poised to bolster the demand for semiconductors and electronic components, positively influencing the NF3 market's trajectory. Additionally,

+357 96 030922
info@marketpublishers.com

increasing investments in renewable energy projects, particularly solar, are driving demand for NF3 as a cleaning agent in PV cell production. The rising adoption of advanced display technologies, such as OLED and QLED, further boost NF3 consumption in the electronics industry.Moreover, the region's strong focus on reducing greenhouse gas emissions and adopting sustainable manufacturing processes is encouraging the use of NF3 as an eco-friendly alternative in various applications.

+357 96 030922
info@marketpublishers.com

Contents

Report Content

CHAPTER 1 METHODOLOGY & SCOPE

1.1 Market scope & definition
1.2 Base estimates & calculations
1.3 Forecast calculation
1.4 Data sources
  1.4.1 Primary
  1.4.2 Secondary
    1.4.2.1 Paid sources
    1.4.2.2 Public sources

CHAPTER 2 EXECUTIVE SUMMARY

2.1 Industry 360° synopsis

CHAPTER 3 INDUSTRY INSIGHTS

3.1 Industry ecosystem analysis
  3.1.1 Key manufacturers
  3.1.2 Distributors
  3.1.3 Profit margins across the industry
3.2 Industry impact forces
  3.2.1 Growth drivers
    3.2.1.1 Growing demand for NF3 in manufacturing of flat panel display driven by growth of smartphones and tablets
    3.2.1.2 Rapidly growing semiconductor and LED manufacturing industry
  3.2.2 Market challenges
    3.2.2.1 Increasing use of fluorine as a direct replacement for NF3
  3.2.3 Market opportunity
    3.2.3.1 New opportunities
    3.2.3.2 Growth potential analysis
3.3 Raw material landscape
  3.3.1 Manufacturing trends
  3.3.2 Technology evolution
    3.3.2.1 Sustainable manufacturing

+357 96 030922
info@marketpublishers.com

3.3.2.1.1 Green practices
3.3.2.1.2 Decarbonization
3.3.3 Sustainability in raw materials
3.3.4 Pricing trends (USD/Ton), 2021 - 2032
3.3.4.1 North America
3.3.4.2 Europe
3.3.4.3 Asia Pacific
3.4 Regulations & market impact
3.5 Porter’s analysis
3.6 PESTEL analysis

CHAPTER 4 COMPETITIVE LANDSCAPE, 2023

4.1 Company market share analysis
4.2 Competitive positioning matrix
4.3 Strategic outlook matrix

CHAPTER 5 MARKET SIZE AND FORECAST, BY APPLICATION, 2021-2032 (USD BILLION, TONS)

5.1 Key trends
5.2 Semiconductor
5.3 Flat panel display
5.4 LED
5.5 Solar PV cells
5.6 Others

CHAPTER 6 MARKET SIZE AND FORECAST, BY REGION, 2021-2032 (USD MILLION, TONS)

6.1 Key trends
6.2 North America
6.2.1 U.S.
6.2.2 Canada
6.2.3 Mexico
6.3 Europe
6.3.1 Germany
6.3.2 UK
6.3.3 Netherlands

+357 96 030922
info@marketpublishers.com

6.3.4 Switzerland
6.4 Asia Pacific
6.4.1 China
6.4.2 Japan
6.4.3 South Korea
6.4.4 Singapore
6.4.5 Thailand
6.4.6 Malaysia

CHAPTER 7 COMPANY PROFILES

7.1 Linde
7.2 Air Products and Chemicals
7.3 Air Liquid
7.4 KANTO CHEMICAL CO., INC.
7.5 Sumitomo Seika Chemicals Company
7.6 Honeywell International Inc.
7.7 Showa Denko K.K.
7.8 Shanghai Huayi Fine Chemical Co., Ltd.
7.9 Linde Gas
7.10 Taiyo Nippon Sanso Corporation

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Nitrogen Trifluoride (NF3) Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2024–2032

Product link: https://marketpublishers.com/r/N12B0108E4F2EN.html

Price: US$ 4,365.00 (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/N12B0108E4F2EN.html