

Cryo Box Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Material Type (Polypropylene, Polycarbonate, Laminated cardboard, Moisture-repellent fiberboard), By End User (Chemical Industry, Healthcare Industry, Personal Care Industry), By Region and Competition

<https://marketpublishers.com/r/C82BCBD0CF2CEN.html>

Date: November 2023

Pages: 188

Price: US\$ 4,900.00 (Single User License)

ID: C82BCBD0CF2CEN

Abstracts

Global Cryo Box Market has valued at USD 127.35 Million in 2022 and is anticipated to project impressive growth in the forecast period with a CAGR of 7.25% through 2028. Cryo boxes, also known as cryogenic boxes or storage boxes, play a crucial role in preserving biological samples and specimens at ultra-low temperatures. These boxes are essential tools for scientific research, medical diagnostics, and various industries, enabling the safe and efficient storage of valuable materials. The global cryo box market has witnessed significant growth in recent years, driven by advancements in biotechnology, healthcare, and the increasing need for long-term sample storage.

The cryo box market has evolved alongside advancements in cryopreservation techniques and the growing demand for biobanking and research applications. Cryo boxes are fundamental in biobanks and research laboratories for storing various biological samples, such as DNA, RNA, tissues, and cells, at temperatures as low as -196°C. The expansion of biobanking projects and research initiatives worldwide fuels the demand for cryo boxes. Cryopreservation plays a crucial role in assisted reproductive technologies (ART), organ transplantation, and the storage of stem cells. The healthcare sector's increasing reliance on cryopreserved materials boosts the adoption of cryo boxes.

The pharmaceutical industry requires cryo boxes for drug discovery, vaccine

development, and clinical trials. These applications rely on the long-term stability and integrity of stored samples, making cryo boxes an indispensable tool. Manufacturers are continually innovating to improve cryo box designs, materials, and insulation technologies. This results in more efficient and user-friendly products, further stimulating market growth.

Key Market Drivers

Rising Biobanking Activities is Driving the Global Cryo Box Market

Biobanking is a critical component of modern healthcare and scientific research, playing a pivotal role in preserving biological specimens for various purposes, such as medical research, drug discovery, and clinical diagnostics. As biobanking activities continue to surge worldwide, the demand for specialized equipment like cryo boxes has grown significantly. These cryogenic storage containers are essential for maintaining the integrity of biological samples at ultra-low temperatures.

Biobanking involves the collection, storage, and management of biological specimens, including tissue samples, blood, DNA, and other biomaterials, with the aim of advancing medical research and improving healthcare outcomes. Biobanks are indispensable for various applications, such as genomics, personalized medicine, regenerative therapies, and epidemiological studies. They serve as invaluable resources for scientists and researchers seeking to unravel the mysteries of diseases, discover new treatments, and develop innovative diagnostics.

Cryo boxes provide a controlled environment that safeguards samples from temperature fluctuations and contamination, ensuring their stability over time. These boxes are available in various sizes and configurations, allowing for efficient sample organization and easy retrieval. Cryo boxes are designed to maximize storage capacity within cryogenic freezers, optimizing the use of valuable laboratory space. Many cryo boxes are equipped with labeling systems, making it easy to track and identify individual samples, which is essential for large-scale biobanks.

The global cryo box market has witnessed substantial growth due to the increasing demand for biobanking services. Market players are continually innovating to meet the specific needs of biobanks and research laboratories. Manufacturers are developing a wide range of cryo boxes with various sizes, materials, and features to cater to diverse biobanking requirements. Incorporation of RFID tracking, temperature monitoring, and automated sample retrieval systems are enhancing the efficiency and reliability of cryo

boxes. Growing awareness of environmental concerns has driven the development of eco-friendly cryo boxes that reduce energy consumption and minimize their carbon footprint.

Increasing Focus on Bio preservation is Driving the Global Cryo Box Market

Biopreservation, the process of preserving biological materials at extremely low temperatures, has gained significant attention in recent years due to its critical role in various industries, including healthcare, pharmaceuticals, and biotechnology. This heightened focus on biopreservation has subsequently driven the global cryo box market, as these specialized containers play a pivotal role in storing and protecting valuable biological specimens, such as cells, tissues, and genetic materials, at ultra-low temperatures. Biopreservation has become increasingly crucial in various fields, and for good reason. It involves preserving biological materials, such as cells, tissues, and biomolecules, at extremely low temperatures, typically below -150°C . This preservation process allows researchers and scientists to maintain the viability, integrity, and functionality of these biological specimens over extended periods, enabling various advancements in research, diagnostics, and medical treatments.

The increasing focus on biopreservation in various sectors, including healthcare, pharmaceuticals, and biotechnology, has driven the global cryo box market. These specialized containers are instrumental in maintaining the integrity and functionality of valuable biological specimens, ultimately advancing research, diagnostics, and medical treatments. As biopreservation continues to be at the forefront of scientific and medical advancements, the demand for cryo boxes is expected to remain robust, leading to further innovation and growth in the industry.

Key Market Challenges

Stringent Regulatory Compliance

One of the foremost challenges faced by the cryo box market is the need to adhere to strict regulatory guidelines and quality standards. Storage of biological materials, especially in pharmaceuticals and healthcare, requires compliance with regulations set forth by agencies like the FDA (Food and Drug Administration) and the European Medicines Agency. Manufacturers must invest in research and development to create cryo boxes that meet these stringent requirements, which can be a costly and time-consuming process.

Increasing Competition

The global cryo box market has witnessed a surge in competition in recent years. As the demand for cryopreservation solutions grows, more companies are entering the market. This increased competition can lead to pricing pressures and lower profit margins for existing players. To stay competitive, companies must continuously innovate, improve product offerings, and maintain high-quality standards.

Technological Advancements

While technological advancements are typically seen as a positive development, they also present challenges for the cryo box market. New technologies, such as automated sample handling and tracking systems, are emerging, which could potentially replace traditional cryo boxes. Manufacturers must adapt and integrate these technologies to remain relevant and address the changing needs of customers.

Environmental Concerns

Cryo boxes often rely on the use of liquid nitrogen or other cryogenic gases to maintain extremely low temperatures. The environmental impact of these gases, particularly their contribution to greenhouse gas emissions, is a growing concern. Manufacturers are under pressure to develop more eco-friendly cryo box solutions, which can be a complex and costly endeavor.

Supply Chain Disruptions

The global supply chain has faced disruptions in recent years due to various factors, including the COVID-19 pandemic, trade tensions, and natural disasters. These disruptions can affect the availability of critical components and materials required for manufacturing cryo boxes. Companies in the cryo box market need robust supply chain management strategies to mitigate these risks.

Intellectual Property and Counterfeiting

Protecting intellectual property and preventing the counterfeiting of cryo box designs and technologies is a significant challenge. Counterfeit products not only erode the market share of legitimate manufacturers but can also compromise the integrity of stored samples. Companies must invest in intellectual property protection and enforcement efforts to combat this challenge effectively.

Ethical and Legal Concerns

Cryo boxes are essential in fields like assisted reproductive technology (ART) and stem cell research, where ethical and legal considerations come into play. The cryopreservation of human embryos, eggs, and sperm raises complex ethical questions, and the legal landscape governing these practices is constantly evolving. Manufacturers must navigate this sensitive terrain while developing products and services for these sectors.

Key Market Trends

Technological Advancements

The global cryo box market has experienced significant growth in recent years, and this upward trajectory is primarily fueled by the relentless pace of technological advancements. Cryo boxes, often made from materials like plastic or stainless steel, are containers used to store biological samples at extremely low temperatures, typically in the range of -80°C to -196°C . These boxes are essential tools in various industries, including healthcare, pharmaceuticals, biotechnology, and research. The increasing demand for cryo storage solutions, coupled with innovations in technology, is propelling the market forward.

One of the most significant technological advancements in cryo box manufacturing is the development of advanced materials and insulation techniques. Traditional cryo boxes were often constructed from stainless steel, but newer materials like reinforced plastics offer better insulation properties while being more cost-effective and lightweight. These materials help maintain stable cryogenic temperatures and reduce energy consumption, making them more environmentally friendly.

Modern cryo boxes often feature RFID (Radio-Frequency Identification) and barcode integration. This technology allows for efficient tracking and retrieval of samples, minimizing human error. Researchers and laboratory staff can easily locate specific samples within a vast storage facility, saving time and improving overall operational efficiency. Automation is another key driver of technological advancement in the cryo box market. Cryo storage systems equipped with automated inventory management software can streamline sample tracking, data recording, and retrieval. These systems can alert users to potential issues, such as temperature fluctuations, ensuring the preservation of valuable samples.

Advanced cryo boxes now come with integrated monitoring and control systems. These systems allow users to remotely monitor the temperature and other environmental conditions within the box. In case of any deviations from the desired parameters, alerts are sent to personnel, preventing the loss of precious samples due to equipment malfunction. The healthcare and biotechnology sectors have seen exponential growth in recent years, driven by a surge in research and development activities. The COVID-19 pandemic further highlighted the importance of effective sample storage and management. Cryo boxes are indispensable in storing vaccines, tissue samples, and biological materials, making them a critical component of the healthcare and biotech infrastructure. Moreover, the rise of personalized medicine and the development of cutting-edge therapies, such as gene and cell-based treatments, require the long-term preservation of biological specimens. Cryo boxes provide a reliable solution for preserving these valuable samples, fostering further adoption across the industry.

Segmental Insights

Material Type Insights

Based on the category of Material Type, Polypropylene emerged as the dominant player in the global market for Cryo Box in 2022. Polypropylene is a thermoplastic polymer that exhibits exceptional properties, making it the preferred material for the construction of cryo boxes. It is highly regarded for its excellent chemical resistance, thermal stability, durability, and cost-effectiveness, all of which are crucial attributes for products designed to store valuable and temperature-sensitive samples. Polypropylene is highly resistant to a wide range of chemicals, acids, and bases, making it ideal for storing various biological and chemical substances. This resistance ensures that the samples remain uncontaminated and unaltered over time. Cryo boxes are designed to operate at extremely low temperatures, typically below -80°C . Polypropylene exhibits excellent thermal stability in such conditions, ensuring the structural integrity of the box and the safety of stored samples. Polypropylene is known for its toughness and resistance to impact. Cryo boxes made from polypropylene can withstand rough handling and the rigors of daily laboratory use without cracking or breaking.

End User Insights

The Healthcare Industry segment is projected to experience rapid growth during the forecast period. The healthcare sector continually invests in research and development to discover new treatments, therapies, and diagnostics. This leads to a growing need for

cryo boxes to store valuable samples used in these studies. Emerging fields like cellular therapies and regenerative medicine depend on the preservation of living cells and tissues. Cryo boxes provide a controlled environment for the storage of stem cells, engineered tissues, and other cellular materials used in cutting-edge treatments. The healthcare industry is a major consumer of cryo boxes for these applications. The healthcare sector has been at the forefront of the fight against infectious diseases, and cryo boxes have a critical role to play in vaccine storage. Many vaccines require ultra-low temperatures for long-term preservation. Cryo boxes equipped with advanced temperature monitoring and control systems ensure that vaccines remain effective and safe, especially during transport and distribution.

Regional Insights

North America emerged as the dominant player in the global Cryo Box market in 2022, holding the largest market share in terms of value. North America has been a pioneer in adopting cutting-edge technologies in cryopreservation and sample storage. The region is home to numerous companies and research institutions that continuously invest in research and development to improve cryo box designs, materials, and functionalities. These innovations have not only enhanced the efficiency and reliability of cryo boxes but have also spurred their adoption in various sectors such as healthcare, biotechnology, and pharmaceuticals. The healthcare industry in North America is one of the most advanced and well-established in the world. As a result, the region has a significant need for cryo boxes to store biological specimens, organs, and vaccines at extremely low temperatures. Hospitals, research centers, and pharmaceutical companies across North America rely on cryo boxes to maintain the integrity of their samples, which has led to a substantial increase in demand. North America is a global hub for scientific research and development, with numerous universities, research institutions, and biotech companies leading the way in various fields. Cryo boxes are indispensable tools for preserving biological samples used in research projects, clinical trials, and diagnostic tests. As North America continues to invest in these areas, the demand for high-quality cryo boxes remains consistently high.

Key Market Players

Abdos Labtech Pvt. Ltd

AHN Biotechnologie GmbH

Aritech Chemazone Pvt. Ltd.

Biologix Group Ltd.

Corning Inc.

Hospital Equipment Manufacturing Co.

JaincoLab, National Analytical Corp.

Thermo Fisher Scientific Inc.

Wildcat Wholesale LLC

Wuxi NEST Biotechnology Co. Ltd

Report Scope:

In this report, the Global Cryo Box Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Cryo Box Market, By Material Type:

Polypropylene

Polycarbonate

Laminated cardboard

Moisture-repellent fibreboard

Cryo Box Market, By End user:

Hospitals & Clinics

Ambulatory Care Centers

Others

Cryo Box Market, By Region:

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia-Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Cryo Box Market.

Available Customizations:

Global Cryo Box market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validations
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

4. VOICE OF CUSTOMER

5. GLOBAL CRYO BOX MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Material Type (Polypropylene, Polycarbonate, Laminated cardboard, Moisture-repellent fiberboard)
 - 5.2.2. By End User (Chemical Industry, Healthcare Industry, Personal Care Industry)

- 5.2.3. By Region
- 5.2.4. By Company (2022)
- 5.3. Market Map
 - 5.3.1. By Material Type
 - 5.3.2. By End User
 - 5.3.3. By Region

6. NORTH AMERICA CRYO BOX MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Material Type
 - 6.2.2. By End User
 - 6.2.3. By Country
 - 6.2.3.1. United States Cryo Box Market Outlook
 - 6.2.3.1.1. Market Size & Forecast
 - 6.2.3.1.1.1. By Value
 - 6.2.3.1.2. Market Share & Forecast
 - 6.2.3.1.2.1. By Material Type
 - 6.2.3.1.2.2. By End User
 - 6.2.3.2. Canada Cryo Box Market Outlook
 - 6.2.3.2.1. Market Size & Forecast
 - 6.2.3.2.1.1. By Value
 - 6.2.3.2.2. Market Share & Forecast
 - 6.2.3.2.2.1. By Material Type
 - 6.2.3.2.2.2. By End User
 - 6.2.3.3. Mexico Cryo Box Market Outlook
 - 6.2.3.3.1. Market Size & Forecast
 - 6.2.3.3.1.1. By Value
 - 6.2.3.3.2. Market Share & Forecast
 - 6.2.3.3.2.1. By Material Type
 - 6.2.3.3.2.2. By End User

7. EUROPE CRYO BOX MARKET OUTLOOK

- 7.1. Market Size & Forecast
 - 7.1.1. By Value
- 7.2. Market Share & Forecast

- 7.2.1. By Material Type
- 7.2.2. By End User
- 7.2.3. By Country
 - 7.2.3.1. France Cryo Box Market Outlook
 - 7.2.3.1.1. Market Size & Forecast
 - 7.2.3.1.1.1. By Value
 - 7.2.3.1.2. Market Share & Forecast
 - 7.2.3.1.2.1. By Material Type
 - 7.2.3.1.2.2. By End User
 - 7.2.3.2. Germany Cryo Box Market Outlook
 - 7.2.3.2.1. Market Size & Forecast
 - 7.2.3.2.1.1. By Value
 - 7.2.3.2.2. Market Share & Forecast
 - 7.2.3.2.2.1. By Material Type
 - 7.2.3.2.2.2. By End User
 - 7.2.3.3. United Kingdom Cryo Box Market Outlook
 - 7.2.3.3.1. Market Size & Forecast
 - 7.2.3.3.1.1. By Value
 - 7.2.3.3.2. Market Share & Forecast
 - 7.2.3.3.2.1. By Material Type
 - 7.2.3.3.2.2. By End User
 - 7.2.3.4. Italy Cryo Box Market Outlook
 - 7.2.3.4.1. Market Size & Forecast
 - 7.2.3.4.1.1. By Value
 - 7.2.3.4.2. Market Share & Forecast
 - 7.2.3.4.2.1. By Material Type
 - 7.2.3.4.2.2. By End User
 - 7.2.3.5. Spain Cryo Box Market Outlook
 - 7.2.3.5.1. Market Size & Forecast
 - 7.2.3.5.1.1. By Value
 - 7.2.3.5.2. Market Share & Forecast
 - 7.2.3.5.2.1. By Material Type
 - 7.2.3.5.2.2. By End User

8. ASIA PACIFIC CRYO BOX MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast

- 8.2.1. By Material Type
- 8.2.2. By End User
- 8.2.3. By Country
 - 8.2.3.1. China Cryo Box Market Outlook
 - 8.2.3.1.1. Market Size & Forecast
 - 8.2.3.1.1.1. By Value
 - 8.2.3.1.2. Market Share & Forecast
 - 8.2.3.1.2.1. By Material Type
 - 8.2.3.1.2.2. By End User
 - 8.2.3.2. India Cryo Box Market Outlook
 - 8.2.3.2.1. Market Size & Forecast
 - 8.2.3.2.1.1. By Value
 - 8.2.3.2.2. Market Share & Forecast
 - 8.2.3.2.2.1. By Material Type
 - 8.2.3.2.2.2. By End User
 - 8.2.3.3. South Korea Cryo Box Market Outlook
 - 8.2.3.3.1. Market Size & Forecast
 - 8.2.3.3.1.1. By Value
 - 8.2.3.3.2. Market Share & Forecast
 - 8.2.3.3.2.1. By Material Type
 - 8.2.3.3.2.2. By End User
 - 8.2.3.4. Japan Cryo Box Market Outlook
 - 8.2.3.4.1. Market Size & Forecast
 - 8.2.3.4.1.1. By Value
 - 8.2.3.4.2. Market Share & Forecast
 - 8.2.3.4.2.1. By Material Type
 - 8.2.3.4.2.2. By End User
 - 8.2.3.5. Australia Cryo Box Market Outlook
 - 8.2.3.5.1. Market Size & Forecast
 - 8.2.3.5.1.1. By Value
 - 8.2.3.5.2. Market Share & Forecast
 - 8.2.3.5.2.1. By Material Type
 - 8.2.3.5.2.2. By End User

9. SOUTH AMERICA CRYO BOX MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast

- 9.2.1. By Material Type
- 9.2.2. By End User
- 9.2.3. By Country
 - 9.2.3.1. Brazil Cryo Box Market Outlook
 - 9.2.3.1.1. Market Size & Forecast
 - 9.2.3.1.1.1. By Value
 - 9.2.3.1.2. Market Share & Forecast
 - 9.2.3.1.2.1. By Material Type
 - 9.2.3.1.2.2. By End User
 - 9.2.3.2. Argentina Cryo Box Market Outlook
 - 9.2.3.2.1. Market Size & Forecast
 - 9.2.3.2.1.1. By Value
 - 9.2.3.2.2. Market Share & Forecast
 - 9.2.3.2.2.1. By Material Type
 - 9.2.3.2.2.2. By End User
 - 9.2.3.3. Colombia Cryo Box Market Outlook
 - 9.2.3.3.1. Market Size & Forecast
 - 9.2.3.3.1.1. By Value
 - 9.2.3.3.2. Market Share & Forecast
 - 9.2.3.3.2.1. By Material Type
 - 9.2.3.3.2.2. By End User

10. MIDDLE EAST & AFRICA CRYO BOX MARKET OUTLOOK

- 10.1. Market Size & Forecast
 - 10.1.1. By Value
- 10.2. Market Share & Forecast
 - 10.2.1. By Material Type
 - 10.2.2. By End User
 - 10.2.3. By Country
 - 10.2.3.1. South Africa Cryo Box Market Outlook
 - 10.2.3.1.1. Market Size & Forecast
 - 10.2.3.1.1.1. By Value
 - 10.2.3.1.2. Market Share & Forecast
 - 10.2.3.1.2.1. By Material Type
 - 10.2.3.1.2.2. By End User
 - 10.2.3.2. Saudi Arabia Cryo Box Market Outlook
 - 10.2.3.2.1. Market Size & Forecast
 - 10.2.3.2.1.1. By Value

- 10.2.3.2.2. Market Share & Forecast
 - 10.2.3.2.2.1. By Material Type
 - 10.2.3.2.2.2. By End User
- 10.2.3.3. UAE Cryo Box Market Outlook
 - 10.2.3.3.1. Market Size & Forecast
 - 10.2.3.3.1.1. By Value
 - 10.2.3.3.2. Market Share & Forecast
 - 10.2.3.3.2.1. By Material Type
 - 10.2.3.3.2.2. By End User

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

- 12.1. Recent Development
- 12.2. Mergers & Acquisitions
- 12.3. End User Launches

13. COMPETITIVE LANDSCAPE

- 13.1. Abdos Labtech Pvt. Ltd.
 - 13.1.1. Business Overview
 - 13.1.2. End User Offerings
 - 13.1.3. Recent Developments
 - 13.1.4. Key Personnel
 - 13.1.5. SWOT Analysis
- 13.2. AHN Biotechnologie GmbH
- 13.3. Aritech Chemazone Pvt. Ltd.
- 13.4. Biologix Group Ltd.
- 13.5. Corning Inc.
- 13.6. Hospital Equipment Manufacturing Co.
- 13.7. JaincoLab, National Analytical Corp.
- 13.8. Thermo Fisher Scientific Inc.
- 13.9. Wildcat Wholesale LLC
- 13.10. Wuxi NEST Biotechnology Co. Ltd.

14. STRATEGIC RECOMMENDATIONS

About us & Disclaimer

I would like to order

Product name: Cryo Box Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Material Type (Polypropylene, Polycarbonate, Laminated cardboard, Moisture-repellent fiberboard), By End User (Chemical Industry, Healthcare Industry, Personal Care Industry), By Region and Competition

Product link: <https://marketpublishers.com/r/C82BCBD0CF2CEN.html>

Price: US\$ 4,900.00 (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/C82BCBD0CF2CEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below
and fax the completed form to +44 20 7900 3970