

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

<https://marketpublishers.com/r/ACE48D32D89EN.html>

Date: January 2023

Pages: 111

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

ID: ACE48D32D89EN

Abstracts

The global advanced phase change materials market size reached US\$ 1.4 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 2.9 Billion by 2028, exhibiting a growth rate (CAGR) of 12.74% during 2023-2028.

The advanced phase change materials market is currently being catalyzed by a rising demand for energy efficient and environment friendly technology. Based upon their unique structure, these materials have the ability to absorb, store and release energy during a phase transition. During the energy conversion process, these materials can be converted from liquid to solid or solid to liquid based upon their application. This makes them ideal for a diverse range of end uses which require temperature control. The material, during the transition process, absorbs energy as it changes from a solid to a liquid and releases energy as it changes back to a solid. Advanced PCMs are mainly segmented into organic PCMs, inorganic PCMs, bio-based PCMs and other PCMs, based on the technology of the material used in the application. Organic PCMs are additionally segmented as paraffin and non-paraffin materials, and inorganic PCMs are further categorized in metallic and salt hydrate. Bio-based APCMs are generally extracted from animal fat or plant oil and postures higher biodegradability over others.

The factors driving the demand for advanced phase change materials include an increasing awareness towards reducing greenhouse gas emissions, strict building codes and a rising demand for renewable sources of energy. Additionally, the augmented demand for these materials from the building and construction industry is further fueling the growth of the market. Moreover, due to the adoption of these materials across a diverse range of applications, such as packaging, HVAC, refrigeration, electronics, textiles, etc., the advanced phase change materials market is

expected to register continuous growth in the near future. Furthermore, factors such as a growing awareness for energy conservation, continued technological developments and rising levels of urbanization in developing countries are expected to be additional drivers for this market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global advanced phase change materials market report, along with forecasts at the global and regional level from 2023-2028. Our report has categorized the market based on type, form and application.

Breakup by Type:

- Organic PCM
- Inorganic PCM
- Bio-Based PCM

Based on type, the market has been segmented as organic PCM, inorganic PCM and bio-based PCM. Currently, organic PCM dominate the market, holding the largest share.

Breakup by Form:

- Encapsulated
- Non-Encapsulated

Based on form, the market has been segmented as encapsulated and non-encapsulated. Currently, encapsulated PCM dominates the market, holding the largest share.

Breakup by Application:

- Building and Construction
- Packaging
- HVAC
- Textiles
- Electronics
- Others

On the basis of application, the market has been segmented as building and construction, packaging, HVAC, textiles, electronics and others. Currently, building and construction dominate the market, holding the largest share.

Regional Insights:

Europe

North America

Asia Pacific

Middle East and Africa

Latin America

Region-wise, the market has been segmented into Europe, North America, Asia Pacific, Middle East and Africa, and Latin America. Amongst these, Europe is the leading market, accounting for the majority of the market share.

Competitive Landscape:

The competitive landscape of the market has also been examined with some of the key players being BASF SE, Cryopak, Entropy Solutions, Honeywell International Inc., Outlast Technologies LLC, Climator Sweden AB, Croda International Plc, Phase Change Material Products Limited, Phase Change Energy Solutions, Pluss Advanced Technologies Pvt. Ltd., RGEES, LLC., Rubitherm Technologies GmbH, Salca BV, and SGL Group.

This report provides a deep insight into the global advanced phase change materials market covering all its essential aspects. This ranges from macro overview of the market to micro details of the industry performance, recent trends, key market drivers and challenges, SWOT analysis, Porter's five forces analysis, value chain analysis, etc. This report is a must-read for entrepreneurs, investors, researchers, consultants, business strategists, and all those who have any kind of stake or are planning to foray into the advanced phase change materials industry in any manner.

Key Questions Answered in This Report

1. What was the size of the global advanced phase change materials market in 2022?
2. What is the expected growth rate of the global advanced phase change materials market during 2023-2028?
3. What are the key factors driving the global advanced phase change materials market?
4. What has been the impact of COVID-19 on the global advanced phase change

materials market?

5. What is the breakup of the global advanced phase change materials market based on the type?

6. What is the breakup of the global advanced phase change materials market based on the form?

7. What is the breakup of the global advanced phase change materials market based on the application?

8. What are the key regions in the global advanced phase change materials market?

9. Who are the key players/companies in the global advanced phase change 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 ADVANCED PHASE CHANGE MATERIALS MARKET

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact of COVID-19
- 5.4 Market Breakup by Type
- 5.5 Market Breakup by Form
- 5.6 Market Breakup by Application
- 5.7 Market Breakup by Region
- 5.8 Market Forecast
- 5.9 SWOT Analysis
 - 5.9.1 Overview
 - 5.9.2 Strengths
 - 5.9.3 Weaknesses
 - 5.9.4 Opportunities
 - 5.9.5 Threats

5.10 Value Chain Analysis

- 5.10.1 Overview
- 5.10.2 Research and Development
- 5.10.3 Raw Material Procurement
- 5.10.4 Manufacturing
- 5.10.5 Distribution
- 5.10.6 Export
- 5.10.7 End-Use

5.11 Porters Five Forces Analysis

- 5.11.1 Overview
- 5.11.2 Bargaining Power of Buyers
- 5.11.3 Bargaining Power of Suppliers
- 5.11.4 Degree of Competition
- 5.11.5 Threat of New Entrants
- 5.11.6 Threat of Substitutes

5.12 Price Analysis

- 5.12.1 Key Price Indicators
- 5.12.2 Price Structure
- 5.12.3 Price Trends

6 MARKET BREAKUP BY TYPE

6.1 Organic PCM

- 6.1.1 Market Trends
- 6.1.2 Market Forecast

6.2 Inorganic PCM

- 6.2.1 Market Trends
- 6.2.2 Market Forecast

6.3 Bio-Based PCM

- 6.3.1 Market Trends
- 6.3.2 Market Forecast

7 MARKET BREAKUP BY FORM

7.1 Encapsulated

- 7.1.1 Market Trends
- 7.1.2 Market Forecast

7.2 Non-Encapsulated

- 7.2.1 Market Trends

7.2.2 Market Forecast

8 MARKET BREAKUP BY APPLICATION

8.1 Building and Construction

8.1.1 Market Trends

8.1.2 Market Forecast

8.2 Packaging

8.2.1 Market Trends

8.2.2 Market Forecast

8.3 HVAC

8.3.1 Market Trends

8.3.2 Market Forecast

8.4 Textiles

8.4.1 Market Trends

8.4.2 Market Forecast

8.5 Electronics

8.5.1 Market Trends

8.5.2 Market Forecast

8.6 Others

8.6.1 Market Trends

8.6.2 Market Forecast

9 MARKET BREAKUP BY REGION

9.1 Europe

9.1.1 Market Trends

9.1.2 Market Forecast

9.2 North America

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 ADVANCED PHASE CHANGE MATERIALS MANUFACTURING PROCESS

- 10.1 Product Overview
- 10.2 Raw Material Requirements
- 10.3 Manufacturing Process
- 10.4 Key Success and Risk Factors

11 COMPETITIVE LANDSCAPE

- 11.1 Market Structure
- 11.2 Key Players
- 11.3 Profiles of Key Players
 - 11.3.1 BASF SE
 - 11.3.2 Cryopak
 - 11.3.3 Entropy Solutions
 - 11.3.4 Honeywell International Inc.
 - 11.3.5 Outlast Technologies LLC
 - 11.3.6 Climator Sweden AB
 - 11.3.7 Croda International Plc
 - 11.3.8 Phase Change Material Products Limited
 - 11.3.9 Phase Change Energy Solutions
 - 11.3.10 Pluss Advanced Technologies Pvt. Ltd.
 - 11.3.11 RGEES, LLC.
 - 11.3.12 Rubitherm Technologies GmbH
 - 11.3.13 Salca BV
 - 11.3.14 SGL Group

List Of Tables

LIST OF TABLES

Table 1: Global: Advanced Phase Change Materials Market: Key Industry Highlights, 2022 and 2028

Table 2: Global: Advanced Phase Change Materials Market Forecast: Breakup by Type (in Million US\$), 2023-2028

Table 3: Global: Advanced Phase Change Materials Market Forecast: Breakup by Form (in Million US\$), 2023-2028

Table 4: Global: Advanced Phase Change Materials Market Forecast: Breakup by Application (in Million US\$), 2023-2028

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

Table 6: Advanced Phase Change Materials Manufacturing: Raw Material Requirements

Table 7: Global: Advanced Phase Change Materials Market: Competitive Structure

Table 8: Global: Advanced Phase Change Materials Market: Key Players

List Of Figures

LIST OF FIGURES

Figure 1: Global: Advanced Phase Change Materials Market: Major Drivers and Challenges

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

Figure 3: Global: Advanced Phase Change Materials Market: Breakup by Type (in %), 2022

Figure 4: Global: Advanced Phase Change Materials Market: Breakup by Form (in %), 2022

Figure 5: Global: Advanced Phase Change Materials Market: Breakup by Application (in %), 2022

Figure 6: Global: Advanced Phase Change Materials Market: Breakup by Region (in %), 2022

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

Figure 8: Global: Advanced Phase Change Materials Industry: SWOT Analysis

Figure 9: Global: Advanced Phase Change Materials Industry: Value Chain Analysis

Figure 10: Global: Advanced Phase Change Materials Industry: Porter's Five Forces Analysis

Figure 11: Organic PCM (Paraffin Based) Manufacturing: Total Production Cost Breakup (in %)

Figure 12: Global: Advanced Phase Change Materials Market: Average Prices (in US\$/Ton), 2017-2028

Figure 13: Global: Advanced Phase Change Materials (Organic PCM) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 14: Global: Advanced Phase Change Materials (Organic PCM) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 15: Global: Advanced Phase Change Materials (Inorganic PCM) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 16: Global: Advanced Phase Change Materials (Inorganic PCM) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 17: Global: Advanced Phase Change Materials (Bio-Based PCM) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 18: Global: Advanced Phase Change Materials (Bio-Based PCM) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 19: Global: Advanced Phase Change Materials (Encapsulated) Market: Sales

Value (in Million US\$), 2017 & 2022

Figure 20: Global: Advanced Phase Change Materials (Encapsulated) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 21: Global: Advanced Phase Change Materials (Non-Encapsulated) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 22: Global: Advanced Phase Change Materials (Non-Encapsulated) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 23: Global: Advanced Phase Change Materials (Application in Building and Construction) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 24: Global: Advanced Phase Change Materials (Application in Building and Construction) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 25: Global: Advanced Phase Change Materials (Application in Packaging) Market: Sales Value (in Million US\$), 2017 & 2022

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

Figure 27: Global: Advanced Phase Change Materials (Application in HVAC) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 28: Global: Advanced Phase Change Materials (Application in HVAC) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 29: Global: Advanced Phase Change Materials (Application in Textiles) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 30: Global: Advanced Phase Change Materials (Application in Textiles) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 31: Global: Advanced Phase Change Materials (Application in Electronics) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 32: Global: Advanced Phase Change Materials (Application in Electronics) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 33: Global: Advanced Phase Change Materials (Other Applications) Market: Sales Value (in Million US\$), 2017 & 2022

Figure 34: Global: Advanced Phase Change Materials (Other Applications) Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 35: Europe: Advanced Phase Change Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 36: Europe: Advanced Phase Change Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

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

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

Figure 39: Asia Pacific: Advanced Phase Change Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 40: Asia Pacific: Advanced Phase Change Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 41: Middle East and Africa: Advanced Phase Change Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 42: Middle East and Africa: Advanced Phase Change Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 43: Latin America: Advanced Phase Change Materials Market: Sales Value (in Million US\$), 2017 & 2022

Figure 44: Latin America: Advanced Phase Change Materials Market Forecast: Sales Value (in Million US\$), 2023-2028

Figure 45: Advanced Phase Change Materials Manufacturing: Detailed Process Flow

I would like to order

Product name: Advanced Phase Change Materials Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

Product link: <https://marketpublishers.com/r/ACE48D32D89EN.html>

Price: US\$ 2,499.00 (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/ACE48D32D89EN.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

