

## **Metal Hydride Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034**

Market Report | 2024-11-21 | 320 pages | Global Market Insights

### **AVAILABLE LICENSES:**

- Single User \$4850.00
- Multi User \$6050.00
- Enterprise User \$8350.00

### **Report description:**

The Global Metal Hydride Market was valued at USD 3.9 billion in 2024 and is projected to experience a CAGR of 7.6% from 2025 to 2034. This growth is primarily driven by the increasing demand for energy storage solutions, particularly in sectors such as renewable energy and electric vehicles. With the rising global focus on reducing carbon emissions, metal hydrides are becoming popular for their role in energy storage, particularly for hydrogen fuel cells.

Technological advancements are significantly improving the performance and affordability of metal hydrides, making them even more attractive for various applications. Additionally, increased investments in clean energy infrastructure and governmental support for green technologies are contributing to the expansion of the market. Metal hydrides are versatile, with applications ranging from portable power systems to military uses, which further boosts their demand.

The market is categorized into alloys, complexes, and others. Alloys are the leading segment, generating a revenue of USD 2.3 billion in 2024, with expectations to grow to USD 4.9 billion by 2034. The dominance of alloys in the market is due to their high hydrogen storage capacity and reliability. Metal hydride alloys, which include compounds like titanium and lanthanum-based materials, offer superior absorption and desorption capabilities, making them ideal for hydrogen storage. Their ability to store hydrogen safely and compactly is critical for industries such as automotive and energy.

In terms of application, the metal hydride market is divided into several segments, including hydrogen storage, NiMH batteries, fuel cells, heat pumps, thermal storage, hydrogen compressors, and others. Among these, hydrogen storage accounts for 35% of the market share. Metal hydrides offer an efficient and safe way to store hydrogen, a critical need in sectors like renewable energy and transportation. As the demand for cleaner energy solutions grows, advanced hydrogen storage technologies like metal hydrides are becoming increasingly important.

The U.S. metal hydride market reached USD 1.1 billion in 2024, driven by a rising need for clean energy solutions, particularly in

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: [support@scotts-international.com](mailto:support@scotts-international.com)

[www.scotts-international.com](http://www.scotts-international.com)

the automotive and energy sectors. The adoption of hydrogen fuel cell vehicles is boosting the demand for safe and efficient hydrogen storage. As governments continue to incentivize the development of hydrogen infrastructure, the demand for metal hydride-based storage systems is expected to rise. Additionally, ongoing advancements in material science are enhancing the performance and cost-effectiveness of these solutions, positioning them as key contributors to the future of energy systems.

## **Table of 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 synopsis, 2021-2034

Chapter 3 Industry Insights

3.1 Industry ecosystem analysis

3.1.1 Factor affecting the value chain

3.1.2 Profit margin analysis

3.1.3 Disruptions

3.1.4 Future outlook

3.1.5 Manufacturers

3.1.6 Distributors

3.2 Supplier landscape

3.3 Profit margin analysis

3.4 Key news & initiatives

3.5 Regulatory landscape

3.6 Impact forces

3.6.1 Growth drivers

3.6.1.1 Rising demand for clean energy solutions

3.6.1.2 Advancements in hydrogen storage technology

3.6.1.3 Government support for green technologies

3.6.2 Industry pitfalls & challenges

3.6.2.1 High production costs

3.6.2.2 Limited commercialization of hydrogen infrastructure

3.7 Growth potential analysis

3.8 Porter's analysis

3.9 PESTEL analysis

Chapter 4 Competitive Landscape, 2024

4.1 Introduction

4.2 Company market share analysis

4.3 Competitive positioning matrix

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: [support@scotts-international.com](mailto:support@scotts-international.com)

[www.scotts-international.com](http://www.scotts-international.com)

#### 4.4 Strategic outlook matrix

#### Chapter 5 Market Size and Forecast, By Type, 2021-2034 (USD Billion) (Kilo Tons)

##### 5.1 Key trends

##### 5.2 Alloys

##### 5.3 Complexes

##### 5.4 Others

#### Chapter 6 Market Size and Forecast, By Application, 2021-2034 (USD Billion) (Kilo Tons)

##### 6.1 Key trends

##### 6.2 Hydrogen storage

##### 6.3 NiMH batteries

##### 6.4 Fuel cells

##### 6.5 Heat pumps

##### 6.6 Thermal storage

##### 6.7 Hydrogen compressors

##### 6.8 Others

#### Chapter 7 Market Size and Forecast, By End Use, 2021-2034 (USD Billion) (Kilo Tons)

##### 7.1 Key trends

##### 7.2 Automotive

##### 7.3 Aerospace

##### 7.4 Industrial applications

##### 7.5 Energy storage

##### 7.6 Others

#### Chapter 8 Market Size and Forecast, By Region, 2021-2034 (USD Billion) (Kilo Tons)

##### 8.1 Key trends

##### 8.2 North America

###### 8.2.1 U.S.

###### 8.2.2 Canada

##### 8.3 Europe

###### 8.3.1 UK

###### 8.3.2 Germany

###### 8.3.3 France

###### 8.3.4 Italy

###### 8.3.5 Spain

###### 8.3.6 Russia

##### 8.4 Asia Pacific

###### 8.4.1 China

###### 8.4.2 India

###### 8.4.3 Japan

###### 8.4.4 South Korea

###### 8.4.5 Australia

##### 8.5 Latin America

###### 8.5.1 Brazil

###### 8.5.2 Mexico

##### 8.6 MEA

###### 8.6.1 South Africa

###### 8.6.2 Saudi Arabia

###### 8.6.3 UAE

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

## Chapter 9 Company Profiles

9.1 Albemarle Corporation

9.2 American Elements

9.3 Fisher Scientific

9.4 Ganfeng Alloys

9.5 HBank Technology

9.6 Merck

9.7 Nippon Denko

9.8 Natrizen Chemicals

9.9 Otto Chemie

9.10 Santa Cruz Biotechnology

9.11 Tinchem Enterprises

□

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: [support@scotts-international.com](mailto:support@scotts-international.com)

[www.scotts-international.com](http://www.scotts-international.com)

**Metal Hydride Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034**

Market Report | 2024-11-21 | 320 pages | Global Market Insights

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

**ORDER FORM:**

Select license	License	Price
	Single User	\$4850.00
	Multi User	\$6050.00
	Enterprise User	\$8350.00
		VAT
		Total

\*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

\*\* VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-03-04"/>
		Signature	

**Scotts International. EU Vat number: PL 6772247784**

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

