

Global Trivalent Chromium Black Passivate Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Trivalent Chromium Black Passivate market size was valued at US\$ 143 million in 2025 and is forecast to a readjusted size of US\$ 203 million by 2032 with a CAGR of 5.1% during review period.

In 2025, global sales volume of black trivalent chromium passivate was approximately 17,000 tons. The mainstream ex-factory price was about US\$8.2/kg, and the gross margin of major manufacturers was approximately 32%-48%. The market is expected to grow at a CAGR of about 5.2% from 2026 to 2032.

Black trivalent chromium passivate is environmentally friendly passivation chemicals used for post-treatment of metallic coatings such as zinc, zinc-nickel alloy and zinc-iron alloy coatings. Their main function is to form a black or deep-black trivalent chromium passivation film on electroplated components, thereby improving corrosion resistance, appearance consistency and compatibility with subsequent sealing treatment. Compared with conventional hexavalent chromium black passivation, black trivalent chromium passivates do not rely on hexavalent chromium as the core film-forming system, making them more compliant with the requirements of the automotive, electrical and electronics, and export-oriented industrial product sectors for hexavalent-chromium-free, low-heavy-metal and environmentally friendly surface treatment. This product is neither an electroplating bath nor a sealer, but a black passivation post-treatment chemical used after electroplating, and is often applied together with zinc-nickel alloy coatings and high-corrosion-resistance sealers.

The upstream supply chain mainly includes trivalent chromium salts, complexing agents, film-forming accelerators, organic acids, pH regulators, stabilizers, wetting

agents, black film-forming auxiliary components and basic chemicals for water treatment. Among these, trivalent chromium salts and the complexing system determine the basis of passivation film formation; film-forming accelerators and stabilizers affect film uniformity, color depth and bath stability; while wetting agents and auxiliary components help reduce color variation, flow marks, blooming and localized passivation defects. Downstream applications mainly include automotive parts, industrial machinery, transportation equipment, electrical and electronics, and other metal components requiring black appearance or high corrosion resistance. Typical end uses include automotive fasteners, chassis parts, braking system components, engineering machinery connectors, rail transit parts, electrical structural components, cabinet hardware and general hardware parts.

This report is a detailed and comprehensive analysis for global Trivalent Chromium Black Passivate market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Trivalent Chromium Black Passivate market size and forecasts, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/kg), 2021-2032

Global Trivalent Chromium Black Passivate market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/kg), 2021-2032

Global Trivalent Chromium Black Passivate market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/kg), 2021-2032

Global Trivalent Chromium Black Passivate market shares of main players, shipments in revenue (\$ Million), sales quantity (Tons), and ASP (US\$/kg), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Trivalent Chromium Black Passivate

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Trivalent Chromium Black Passivate market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Atotech, MacDermid Enthone Industrial Solutions, SurTec, PAVCO, Columbia Chemical, Dipsol Chemicals, Dr. Hesse, Nippon Hyomen Kagaku, Technic, Galvano Mondo, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Trivalent Chromium Black Passivate market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

Zinc Plating Type

Zinc-Nickel Alloy Plating Type

Zinc-Iron Alloy Plating Type

Market segment by Performance Grade

Standard Corrosion Resistance Type

High Corrosion Resistance Type

Ultra-High Corrosion Resistance Type

Market segment by Application

Automotive Part

Industrial Machinery

Transportation Equipment

Electrical and Electronic

Other

Major players covered

Atotech

MacDermid Enthone Industrial Solutions

SurTec

PAVCO

Columbia Chemical

Dipsol Chemicals

Dr. Hesse

Nippon Hyomen Kagaku

Technic

Galvano Mondo

Artek Surfin Chemicals

MAR-Tech Holdings

Guangzhou Sanfu New Materials Technology

Guangdong Bigely Technology

Guangdong Dazhi Chemical Technology

Anhui Dingwang Environmental Protection Materials Technology

Hangzhou Dongfang Surface Technology

Guangzhou Chuanfu Chemical

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Trivalent Chromium Black Passivate product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Trivalent Chromium Black Passivate, with price, sales quantity, revenue, and global market share of Trivalent Chromium Black

Passivate from 2021 to 2026.

Chapter 3, the Trivalent Chromium Black Passivate competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Trivalent Chromium Black Passivate breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026. and Trivalent Chromium Black Passivate market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Trivalent Chromium Black Passivate.

Chapter 14 and 15, to describe Trivalent Chromium Black Passivate sales channel, distributors, customers, research findings and conclusion.

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