

South Korea Chiral Chemicals Market Size, Share, Trends and Forecast by Technology, Application, and Region, 2026-2034

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Abstracts

The South Korea chiral chemicals market size was valued at USD 1,838.5 Million in 2025. Looking forward, IMARC Group estimates the market to reach USD 3,847.1 Million by 2034, exhibiting a CAGR of 8.29 % during 2026-2034. The market is spurred by growing environmental concerns, supportive government policies and rapid growth in the pharmaceutical industry. Strong demand for enantiomerically pure compounds in pharmaceutical research fuels investment in chiral technology. Moreover, government programs and tax benefits spur R&D and public-private partnerships and strategic export programs enhance the nation's global competitiveness, thus increasing the South Korea chiral chemicals market share.

One of the major propellers of the South Korea chiral chemicals market is the region's fast-developing pharmaceutical sector, which increasingly needs enantiomerically pure, high-purity compounds for the development of drugs. As healthcare standards improve worldwide and personalized medicine accelerates, South Korean drug companies are spending aggressively on advanced chiral technologies to improve drug efficacy, safety, and regulatory acceptability. Chiral chemicals, particularly single-enantiomer medications, provide decreased side effects and more therapeutic outcomes and are enticing prospects for pharma innovation. Besides, South Korea's administration patronizes biopharmaceutical creation via funds and policies that propel the R&D endeavors of domestic businesses, and even international multinationals. Scientifically oriented education coupled with collaborative industrial-scientific cooperation, well-established intellectual property infrastructures, and targeted research in precision medicine have collectively led to fertile grounds for developing chiral chemicals. With increasing domestic consumption along with exports of high-priced medicines, there remains a necessity for chiral synthesis that is scalable, robust, and environment

friendly.

Growing interest in and support for the application of green chemistry and eco-friendly industrial principles are also acting as significant factors fueling the South Korea chiral chemicals market outlook forward. As international pressure increases to lower the environmental footprint of chemical manufacturing, chiral chemicals particularly those manufactured through biocatalysis or asymmetric synthesis—are becoming increasingly popular for their potential to reduce waste and increase efficiency. South Korea's active engagement in international environmental agreements and national policies toward sustainability are compelling industries to apply cleaner technologies. This is consistent with the increasing requirement for chiral compounds in agrochemicals, where biological selectivity limits the use of pesticides and alleviates ecological damage. Additionally, as consumer markets increasingly require natural, high-quality ingredients in flavor and fragrance applications, the potential to manufacture a particular enantiomer economically has become desirable. The increasing focus on ESG (Environmental, Social, and Governance) principles in business strategy is also impacting chemical producers to invest in chiral processes that are aligned with sustainable production objectives, thus driving market growth in this segment.

SOUTH KOREA CHIRAL CHEMICALS MARKET TRENDS:

Expansion of the Pharmaceutical Industry

Pharmaceutical business in South Korea is experiencing immense growth, stimulated by growing investment and a strong research and development (R&D) environment. According to industry reports, Korea is elevating its position as a global biopharmaceutical manufacturing hub. Samsung Biologics manufactured 424,000 liters in 2022 to have the world's largest consignment production capacity and will expand by 360,000 liters by 2026. Hence, fostering innovation has become government policy, giving rise to projects such as the National Bio Committee, with a view to merging policies among several bio-related sectors, such as health and medical care. Coordination raises the effectiveness of R&D activity and speeds up commercialization of novel treatments. With the increasing demand for new therapeutics, particularly in oncology and neurology, the demand for chiral chemicals—essential for the synthesis of optically pure compounds has increased proportionally. Firms are now more interested in producing high-purity chiral intermediates to satisfy the high standards of the pharmaceutical industry. This trend highlights the pivotal role of chiral chemicals in the development of contemporary medicine and the growth path of the pharmaceutical industry.

Increased Environmental Consciousness

With increased awareness about environmental concerns in South Korea, there is a strong drive toward sustainable and environmentally friendly methods of chemical production. The government has introduced several strict regulations to guarantee safe production and disposal of chemicals, requiring the use of greener processes in manufacturing. This transition has created a growing need for chiral chemicals that are made using environmentally sustainable processes, including biological separation methods, which have low environmental impact. While according to industry reports, South Korea aims to reduce its overall emissions to 37% below business-as-usual (BAU) levels by 2030, the country is also increasingly promoting sustainable practices across all sectors. In addition, industries are investing on research to create new catalysts and separation technologies that increase the sustainability of chiral chemical manufacture. Hence, according to the South Korea chiral chemicals market forecast, while this increasing focus on sustainability conforms to global environmental objectives, it also places South Korea at the vanguard of green chemical technology development and implementation.

Government Support for Market Growth

The government of South Korea is the central figure in facilitating the expansion of the chiral chemicals market through different policies and initiatives. The formation of the National Bio Committee in January 2025 is a clear indicator of the government's agenda to promote a unified bio ecosystem by coordinating policies among health, food, energy, and environmental sectors. This approach between ministries has the purpose of streamlining R&D, curbing regulatory ambiguities, and encouraging public-private partnerships to bring about an innovative-friendly atmosphere. The government's emphasis on boosting the bio manufacturing industry, i.e., capacity expansion as well as strengthening infrastructure, directly advantages the chiral chemicals industry by providing a regular supply of superior quality raw material. Overall, the chemical industry in South Korea makes up for 14.3% of the manufacturing production in the country, as well as 17% of exports, according to the International Trade Administration (ITA). These strategic steps enhance the global competitiveness of the region's enterprises while also fueling the South Korea chiral chemicals market growth.

SOUTH KOREA CHIRAL CHEMICALS INDUSTRY SEGMENTATION:

IMARC Group provides an analysis of the key trends in each segment of the South

Korea chiral chemicals market, along with forecasts at the country and regional levels from 2026-2034. The market has been categorized based on technology and application.

Analysis by Technology:

Traditional Separation Method

Asymmetric Preparation Method

Asymmetric Synthesis Method

Asymmetric Catalysis Method

Biological Separation Method

Others

The traditional separation method separates racemic mixtures into separate enantiomers through processes such as crystallization, chromatography, or distillation. Though inefficient and time-consuming, it is still common in South Korea because of its low startup cost and widespread industrial usage, especially in the pharmaceutical and agrochemical industries.

Asymmetric preparation method directly gives chiral compounds of high enantiomeric purity with chiral catalysts or reagents. In South Korea, this technique is highly preferred for its efficiency and sustainability, particularly in the pharmaceutical sector, where accuracy and less waste are essential. It facilitates advanced drug development and manufacturing processes.

The biological separation method uses enzymes, microorganisms, or biocatalysts to selectively synthesize or isolate chiral compounds. In South Korea, its mild conditions of operation and environment-friendly nature make it of interest for green chemistry projects. It's particularly dominant in applications of biotech, such as drug synthesis and fine chemical production, with increasing commercial applications.

Analysis by Application:

Pharmaceuticals

Agrochemicals

Flavors and Fragrances

Others

The growth of pharmaceuticals is fueled by the demand for enantiomerically pure medications. Chiral compounds enhance drug potency and minimize side effects. Strong pharmaceutical sector and emphasis on technology make South Korea invest in new drug development and generics with advanced chiral synthesis technologies.

In South Korea, chiral chemicals in agrochemicals improve crop protection by enhancing selectivity and minimizing environmental footprints. Employed in herbicides, fungicides, and insecticides, the chemicals contribute to agricultural efficiency and sustainability objectives. The regulatory push for safer agro products is also increasing demand for enantiomerically pure chiral chemicals in this industry.

The flavors and fragrances industry employs chiral chemicals to provide unique sensory experiences, since enantiomers tend to smell or taste differently. In South Korea, increased consumer demand for premium and nature-sourced products is propelling demand. The market is helped by developments in biotechnology and green synthesis for the production of chiral aroma compounds.

Regional Analysis:

Seoul Capital Area

Yeongnam (Southeastern Region)

Honam (Southwestern Region)

Hoseo (Central Region)

Others

The Seoul Capital Area, which consists of Seoul, Incheon, and Gyeonggi Province, is the industrial and R&D center of South Korea. It dominates the chiral chemicals market because it has a focus of pharmaceutical corporations, research organizations, and universities. Government subsidies and robust infrastructure fuel ongoing innovation and demand for this high-growth area.

Yeongnam, which comprises Busan, Daegu, and Ulsan, is a large industrial area with particular dominance in petrochemicals and pharmaceuticals. The area facilitates chiral chemical manufacturing through its sophisticated manufacturing plants as well as export port access. Strategic investment and clustering of industries render it a top player in the national chiral market.

Honam, which includes Gwangju and Jeolla provinces, is surfacing in the chiral chemicals industry by way of its expanding biotechnology and agriculture industries. Local development projects and environmental-friendly industrial policies facilitate growth, while the emphasis on agrochemicals and bio-derived chiral uses actively shift toward sustainable objectives, which in turn incrementally expands the market in South Korea.

Hoseo, which comprises Daejeon and Chungcheong provinces, is favored by its location in the center and proximity to research centers and science parks. The area is gaining traction in the pharmaceuticals and biotech sectors, further creating demand for chiral chemicals. Government-sponsored innovation clusters and education hubs enhance Hoseo's position in South Korea's high-value chemical development ecosystem.

COMPETITIVE LANDSCAPE:

Major players in South Korea's chiral chemicals industry are aggressively spearheading growth through strategic investments, technological innovation, and global partnerships. Merck KGaA, Darmstadt, Germany, is making notable progress with a €326 million investment in a new pharmaceutical factory in Daejeon, South Korea. The plant will facilitate the development and production of advanced therapies, such as vaccines and cell-based treatments, thus boosting the production of chiral compounds used in these applications. In the same industry, Lotte Chemical, based in Seoul, South Korea, is broadening its green practices by collaborating with Finland's Neste to provide renewable raw materials for chemical manufacturing. The collaboration aims at making chemicals and plastics with reduced emissions, in line with international sustainability objectives and further boosting the environmentally friendly image of chiral chemical

manufacturing. These moves demonstrate a unified effort by leaders to innovate and take the lead in the chiral chemicals industry through sustainability, technological innovation, and strategic collaborations to address increasing demand for enantiomerically pure molecules.

The report provides a comprehensive analysis of the competitive landscape in the keyword market with detailed profiles of all major companies.

Frequently Asked Questions About the South Korea Chiral Chemicals Market Report

- 1.How big is the South Korea chiral chemicals market?
- 2.What is the future outlook of South Korea chiral chemicals market?
- 3.What are the key factors driving the South Korea chiral chemicals 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 SOUTH KOREA CHIRAL CHEMICALS MARKET - INTRODUCTION

- 4.1 Overview
- 4.2 Market Dynamics
- 4.3 Industry Trends
- 4.4 Competitive Intelligence

5 SOUTH KOREA CHIRAL CHEMICALS MARKET LANDSCAPE

- 5.1 Historical and Current Market Trends (2020-2025)
- 5.2 Market Forecast (2026-2034)

6 SOUTH KOREA CHIRAL CHEMICALS MARKET - BREAKUP BY TECHNOLOGY

- 6.1 Traditional Separation Method
 - 6.1.1 Overview
 - 6.1.2 Historical and Current Market Trends (2020-2025)
 - 6.1.3 Market Forecast (2026-2034)
- 6.2 Asymmetric Preparation Method
 - 6.2.1 Overview
 - 6.2.2 Historical and Current Market Trends (2020-2025)

- 6.2.3 Market Segmentation
 - 6.2.3.1 Asymmetric Synthesis Method
 - 6.2.3.2 Asymmetric Catalysis Method
- 6.2.4 Market Forecast (2026-2034)
- 6.3 Biological Separation Method
 - 6.3.1 Overview
 - 6.3.2 Historical and Current Market Trends (2020-2025)
 - 6.3.3 Market Forecast (2026-2034)
- 6.4 Others
 - 6.4.1 Historical and Current Market Trends (2020-2025)
 - 6.4.2 Market Forecast (2026-2034)

7 SOUTH KOREA CHIRAL CHEMICALS MARKET - BREAKUP BY APPLICATION

- 7.1 Pharmaceuticals
 - 7.1.1 Overview
 - 7.1.2 Historical and Current Market Trends (2020-2025)
 - 7.1.3 Market Forecast (2026-2034)
- 7.2 Agrochemicals
 - 7.2.1 Overview
 - 7.2.2 Historical and Current Market Trends (2020-2025)
 - 7.2.3 Market Forecast (2026-2034)
- 7.3 Flavors and Fragrances
 - 7.3.1 Overview
 - 7.3.2 Historical and Current Market Trends (2020-2025)
 - 7.3.3 Market Forecast (2026-2034)
- 7.4 Others
 - 7.4.1 Historical and Current Market Trends (2020-2025)
 - 7.4.2 Market Forecast (2026-2034)

8 SOUTH KOREA CHIRAL CHEMICALS MARKET – BREAKUP BY REGION

- 8.1 Seoul Capital Area
 - 8.1.1 Overview
 - 8.1.2 Historical and Current Market Trends (2020-2025)
 - 8.1.3 Market Breakup by Technology
 - 8.1.4 Market Breakup by Application
 - 8.1.5 Key Players
 - 8.1.6 Market Forecast (2026-2034)

8.2 Yeongnam (Southeastern Region)

8.2.1 Overview

8.2.2 Historical and Current Market Trends (2020-2025)

8.2.3 Market Breakup by Technology

8.2.4 Market Breakup by Application

8.2.5 Key Players

8.2.6 Market Forecast (2026-2034)

8.3 Honam (Southwestern Region)

8.3.1 Overview

8.3.2 Historical and Current Market Trends (2020-2025)

8.3.3 Market Breakup by Technology

8.3.4 Market Breakup by Application

8.3.5 Key Players

8.3.6 Market Forecast (2026-2034)

8.4 Hoseo (Central Region)

8.4.1 Overview

8.4.2 Historical and Current Market Trends (2020-2025)

8.4.3 Market Breakup by Technology

8.4.4 Market Breakup by Application

8.4.5 Key Players

8.4.6 Market Forecast (2026-2034)

8.5 Others

8.5.1 Historical and Current Market Trends (2020-2025)

8.5.2 Market Forecast (2026-2034)

9 SOUTH KOREA CHIRAL CHEMICALS MARKET – COMPETITIVE LANDSCAPE

9.1 Overview

9.2 Market Structure

9.3 Market Player Positioning

9.4 Top Winning Strategies

9.5 Competitive Dashboard

9.6 Company Evaluation Quadrant

10 PROFILES OF KEY PLAYERS

10.1 Company A

10.1.1 Business Overview

10.1.2 Product Portfolio

- 10.1.3 Business Strategies
- 10.1.4 SWOT Analysis
- 10.1.5 Major News and Events
- 10.2 Company B
 - 10.2.1 Business Overview
 - 10.2.2 Product Portfolio
 - 10.2.3 Business Strategies
 - 10.2.4 SWOT Analysis
 - 10.2.5 Major News and Events
- 10.3 Company C
 - 10.3.1 Business Overview
 - 10.3.2 Product Portfolio
 - 10.3.3 Business Strategies
 - 10.3.4 SWOT Analysis
 - 10.3.5 Major News and Events
- 10.4 Company D
 - 10.4.1 Business Overview
 - 10.4.2 Product Portfolio
 - 10.4.3 Business Strategies
 - 10.4.4 SWOT Analysis
 - 10.4.5 Major News and Events
- 10.5 Company E
 - 10.5.1 Business Overview
 - 10.5.2 Product Portfolio
 - 10.5.3 Business Strategies
 - 10.5.4 SWOT Analysis
 - 10.5.5 Major News and Events

11 SOUTH KOREA CHIRAL CHEMICALS MARKET - INDUSTRY ANALYSIS

- 11.1 Drivers, Restraints, and Opportunities
 - 11.1.1 Overview
 - 11.1.2 Drivers
 - 11.1.3 Restraints
 - 11.1.4 Opportunities
- 11.2 Porters Five Forces Analysis
 - 11.2.1 Overview
 - 11.2.2 Bargaining Power of Buyers
 - 11.2.3 Bargaining Power of Suppliers

- 11.2.4 Degree of Competition
- 11.2.5 Threat of New Entrants
- 11.2.6 Threat of Substitutes
- 11.3 Value Chain Analysis

12 APPENDIX

I would like to order

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