

# **Vietnam Water Treatment Chemicals Market By Type (Coagulants & Flocculants, Corrosion Inhibitors, Scale Inhibitors, Biocides & Disinfectants, Chelating Agents, Anti-Foaming Agents, Ph Adjusters & Stabilizers, and Others), By Application (Water Desalination, Raw Water Treatment, Boiler Water Treatment, Cooling Water Treatment, Others), By End-User (Municipal, Power, Oil & Gas, Mining, Chemical, Food & Beverage, Pulp & Paper, and Others), By Region, Competition, Forecast and Opportunities, 2028F**

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## **Abstracts**

The Vietnam Water Treatment Chemicals Market was valued at USD280.51 million in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 2.38% through 2028. Vietnam Water Treatment Chemicals Market is anticipated to grow significantly in the projected period 2028 due to the rising demand for clean & fresh water, growing demand from the industrial and manufacturing sector, and stringent environmental policy by the government of Vietnam. The Ministry of Natural Resources and Environment, Vietnam, stated that 80% of medical cases related to diseases such as cholera, typhoid, dysentery, and malaria are caused by water pollution. The rapidly growing population in Vietnamese urban areas puts increasing pressure on the country's water resources, such as rivers, groundwater, and lakes. As an outcome to fulfill the demand for clean and safe water for a growing population, advanced water treatment technologies and chemicals are required. At the same time, Vietnam has been experiencing rapid industrialization and urbanization to align with the global economic order. Hence, the industry's processes generate significant amounts of

wastewater and pollution that need to be treated before being discharged into water bodies as waste contains harmful substances. Water treatment chemicals play a crucial role in removing contaminants and ensuring that the wastewater meets the required standards set by the government. Vietnam is facing environmental challenges, including water pollution from industrial and agricultural activities. To address these concerns, there is a growing emphasis on improving water quality and protecting water sources. Water treatment chemicals are necessary to mitigate the impacts of pollution and restore the ecological balance of water bodies.

## Key Market Drivers

### Rising Demand for Clean and Fresh Water is a Key Factor that Driving the Vietnam Water Treatment Chemicals Market Growth

The rising demand for clean and fresh water is one of the major factors driving the growth of the water treatment chemicals market in Vietnam. As more people migrate to cities, Vietnam's population is expanding, particularly in urban areas, and the demand for clean and safe water is growing for drinking, household use, and sanitation purposes. According to the macro trends, the net migration rate for Vietnam in 2023 is estimated to be 0.935 per 1000 population, a 2.07% increase from 2022. Hence, water treatment chemicals are essential for purifying water from various sources, including rivers, lakes, and groundwater, and make them suitable for human use or consumption. Due to industrial discharges, agricultural runoff, and inadequate wastewater management, Vietnam faces significant water pollution challenges around the country. Water treatment chemicals play a crucial role in removing pollutants, such as heavy metals, organic compounds, and pathogens, from contaminated water sources. The growing awareness of water pollution issues has led to an increased demand for water treatment chemicals to ensure the availability of clean and safe water. Access to clean water is essential for preventing waterborne diseases and maintaining public health. Inadequate water treatment can lead to the spread of waterborne illnesses such as cholera, typhoid, and hepatitis. Water treatment chemicals, including disinfectants like chlorine, are used to eliminate harmful microorganisms and ensure the safety of drinking water. Climate change effects, including changing rainfall patterns and increased frequency of droughts, pose challenges to water availability in Vietnam. As water resources become scarcer, there is a growing need to optimize water use and treat water more effectively. Water treatment chemicals help enhance water treatment processes, maximize water reuse, and mitigate the impact of water scarcity on various sectors. Therefore, the growing demand for clean and fresh water is a key driver for the Vietnam water treatment chemicals market in the projected period.

## Growing Demand from Industrial and Manufacturing Sector Drives the Vietnam Water Treatment Chemicals Market Growth

In the past decade, Vietnam has been attracting significant foreign direct investment (FDI) in various industries, such as textiles, electronics, automotive, and chemical manufacturing. These industries generate a significant amount of wastewater containing pollutants and require effective water treatment solutions to meet environmental regulations. Approximately 70% of the industrial zones did not have wastewater treatment facilities and 90% of productive enterprises directly disposed of their waste into landfills or water bodies. Every year, 12757 enterprises and 186 industrial zones produce around 220000 tons of industrial waste and industrial wastewater of 47.2 million cubic meters. Hence, water treatment chemicals are utilized to treat industrial wastewater, remove contaminants, and ensure compliance with discharge standards set by the government. Industries are required to comply with effluent standards, which necessitate the use of water treatment chemicals to treat their wastewater. As regulations become more stringent, the demand for advanced and specialized water treatment chemicals increases. Due to water scarcity concerns and the need for sustainable water management, industries are increasingly focusing on water reuse and conservation practices. 30% of the water is acidic in Vietnam, whereas in some regions of the northern part of the country, the level of acid in water reaches 50% every year due to chemical waste released by industries. Here, water treatment chemicals are employed in processes like water recycling, desalination, and wastewater reuse to ensure the water is treated to the desired quality level for reuse purposes. Both local and international companies operating in Vietnam are increasingly prioritizing environmental sustainability and corporate social responsibility. They recognize the importance of managing their water footprint and minimizing the impact of their operations on the environment. Consequently, they invest in water treatment solutions and chemicals to ensure responsible water management and reduce their environmental footprint. Therefore, all these factors are expected to drive the demand for water treatment and propel the Vietnam water treatment chemicals market growth.

### Key Market Challenges

#### Lack of Skilled Workforce

As the Vietnamese economy experiences continuous growth, there is an increasing demand for water treatment solutions. However, the supply of skilled professionals who can design, operate, and maintain these intricate systems is not keeping up with the

demand. This skill gap presents a multifaceted challenge to the water treatment chemicals market. The water treatment chemicals sector is currently experiencing rapid technological advancements. To fully leverage the advantages of these innovations, it is crucial to have a competent workforce capable of effectively implementing and managing these new technologies. The scarcity of skilled professionals can impede the adoption of advanced treatment methods and hinder the sector's ability to stay abreast of global trends.

### High Cost of Advanced Water Treatment Chemicals

Specialized water treatment chemicals, meticulously customized for specific contaminants and treatment processes, are of paramount importance in guaranteeing the efficient elimination of pollutants and impurities from water sources. This comprehensive array of chemicals encompasses various products, such as coagulants, flocculants, disinfectants, pH adjusters, and corrosion inhibitors. The high cost of these advanced water treatment chemicals may discourage industries and municipalities from embracing innovative water treatment technologies. The high cost of advanced chemicals can lead to market fragmentation, with only larger companies able to afford the latest treatment solutions. This limits competition and innovation within the sector, potentially slowing down the overall advancement of water treatment technologies. Moreover, sustainable water management practices, such as water reuse and recycling, may be hindered by the high cost of chemicals required for these processes. This could delay the adoption of water-saving initiatives and hinder progress toward a more water-efficient economy.

### Key Market Trends

#### Growing Research and Development

Environmental sustainability is a fundamental priority for Vietnam as it pursues responsible economic development. Research and development endeavors are propelling the advancement of eco-friendly water treatment chemicals that effectively mitigate environmental impact. Through the development of biodegradable chemicals and environmentally conscious treatment technologies, researchers are aiding industries and municipalities in attaining their water treatment objectives, concurrently diminishing their carbon footprint and fostering a cleaner environment. In a recent study conducted in 2021, a filter system based on silver nanoparticles coated onto activated carbon derived from rice husk (AgNPs@AC) has been proposed for the treatment of floodwater from the Hau Giang River. The study established the optimal conditions for

the preparation of AgNPs@AC and characterized it using various surface analysis techniques such as SEM, TEM, XRD, BET, FTIR, and DLS. Prior to being discharged into the filtration column containing AgNPs@AC, the floodwater source would undergo pre-treatment with poly aluminum chloride using the coagulation-sedimentation method to remove suspended solids. The results demonstrated the effective removal of turbidity, dissolved solids, suspended solids, color, and bacteria from the floodwater by the filter system based on AgNPs@AC. Moreover, it was determined that a filter column with a 30 mm thick AgNPs@AC layer could continuously process 1300 m<sup>3</sup> of floodwater for a service life of more than two months. The findings of this study not only contribute to our understanding of the floodwater treatment capacity of activated carbon-coated nanoparticles but also provide valuable insights for water treatment plants along the Hau Giang River, aquatic ecosystem researchers, and public health researchers.

### Rise in Technological Advancements

The integration of digital technologies and smart systems is revolutionizing water treatment processes. Smart water treatment solutions utilize sensors, data analytics, and automation to monitor and optimize treatment operations in real time. This not only enhances the efficiency of water treatment plants but also enables rapid response to changes in water quality and demand. Nanomaterials and nanoparticles are engineered to effectively adsorb or degrade pollutants, leading to higher treatment efficiencies. Additionally, the development of advanced chemical formulations, including coagulants, flocculants, and disinfectants, is optimizing the removal of impurities from water sources. The growing concept of zero liquid discharge aims to eliminate wastewater discharge from industrial facilities and is gaining prominence in water treatment chemicals in Vietnam. Industries are adopting ZLD systems that treat and recover wastewater, leaving behind minimal or no liquid discharge. Water treatment chemicals are integral to these systems to achieve effective treatment and recovery of water resources. Furthermore, innovative processes such as advanced oxidation, electrochemical treatment, and membrane bioreactors allow for the reclamation and treatment of wastewater for various purposes, including irrigation and industrial processes. These technologies reduce the pressure on freshwater resources and promote circular water management practices.

### Segmental Insights

#### Type Insights

In 2022, the water treatment chemicals market was dominated by the Coagulants and

flocculants segment and is predicted to continue expanding over the coming years. Coagulants and flocculants are highly versatile chemicals that find application in treating a broad spectrum of water sources. These sources encompass industrial wastewater, municipal sewage, surface water, and groundwater. Their adaptability to diverse water treatment applications makes them well-suited to cater to the requirements of various sectors, including manufacturing, agriculture, and municipal water supply. While coagulants and flocculants are traditional water treatment chemicals, ongoing research and development have led to the formulation of enhanced products with improved performance. These advancements ensure that coagulants and flocculants remain relevant and effective in modern water treatment practices.

### Application Insights

In 2022, the water treatment chemicals market was dominated by the water desalination segment and is predicted to continue expanding over the coming years. Vietnam has a long coastline and several coastal areas. Desalination becomes a viable option in regions where freshwater sources are limited and there is access to seawater. Coastal cities and industries might consider desalination to meet their water needs. Advancements in desalination technologies, particularly in energy-efficient and cost-effective methods, make desalination a more attractive option for addressing water scarcity challenges.

### Regional Insights

The Central region has established itself as the leader in the Vietnam Water Treatment Chemicals Market. The Central region encounters fluctuating degrees of water scarcity, particularly in specific seasons. This increased focus on water availability has prompted greater emphasis on efficient water management and treatment methodologies. Water treatment chemicals play a critical role in treating and recycling water to optimize its utilization while minimizing waste. Moreover, government policies and initiatives targeting environmental protection and sustainable development have sparked heightened attention towards wastewater treatment and management. The Central region's proactive stance in embracing these policies has generated a greater need for water treatment chemicals to ensure compliance and address environmental concerns.

### Key Market Players

Ecolab Vietnam Co. Ltd.

Solenis Vietnam Company Limited

BASF Vietnam Co. Ltd.

Kemira OYJ

AkzoNobel Coatings Vietnam

Baker Hughes Co., Ltd.

Dow Company Vietnam

VATECH JSC

Camix Company Limited

Suez Water Technologies & Solutions Vietnam

#### Report Scope:

In this report, the Vietnam Water Treatment Chemicals Market has been segmented into the following categories, in addition to the industry trends, which have also been detailed below:

#### Vietnam Water Treatment Chemicals Market, By Type:

Coagulants & Flocculants

Corrosion Inhibitors

Scale Inhibitors

Biocides & Disinfectants

Chelating Agents

Anti-Foaming Agents

Ph Adjusters & Stabilizers

Others

Vietnam Water Treatment Chemicals Market, By End-User:

Municipal

Power

Oil & Gas

Mining

Chemical

Food & Beverage

Pulp & Paper

Others

Vietnam Water Treatment Chemicals Market, By Region:

North Vietnam

South Vietnam

Central Vietnam

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Vietnam Water Treatment Chemicals Market.

Available Customizations:

Vietnam Water Treatment Chemicals Market report with the given market data, Tech

*Vietnam Water Treatment Chemicals Market By Type (Coagulants & Flocculants, Corrosion Inhibitors, Scale Inhibi...*

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).

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