



# Market Insights: Water Management Chemicals – 2023

**Market Insights: Water Management Chemicals - 2023** is one in a series of reports published as part of NexantECA's Markets & Profitability program.

NexantECA's Market Insights report provides a comprehensive review of water management chemicals, including:

- Overview of global water uses and treatment
- Overview of the water management chemicals business for the main products:
  - Coagulants and Flocculants
    - Organic
    - Inorganic
  - Activated Carbon
  - Ion Exchange Resins
  - Formulated Products
    - Boiler Water Treatment
    - Cooling Water Treatment
- Global and regional market outlook covering each of the main products above, including overview, demand by end-use, producers and market participants, trends and opportunities for North America, South America, Europe, Middle East and Africa, China, and Other Asia Pacific
- Pricing analysis with commentary regarding latest trends
- Value chain analysis (Porter Five Forces).

## Report Abstract:

Total global renewable water resources have remained fairly constant since the 1960s, while total water withdrawal has increased steadily in the same timeframe due to urbanisation and population growth. According to United Nations, only 0.5 percent of the total water available on earth's surface is fresh water, that can be used for human consumption. Sixty percent of the resource is unevenly distributed, with most concentrated in ten countries and therefore many countries and regions are under water stress.

To meet the increasing demand for fresh water requires effort to improve the quality and quantity of fresh water. This includes collection of rainwater, diverting surface water from one region to another, building dams and reservoirs to store water, regeneration of fresh water from wastewater, and desalination of seawater.

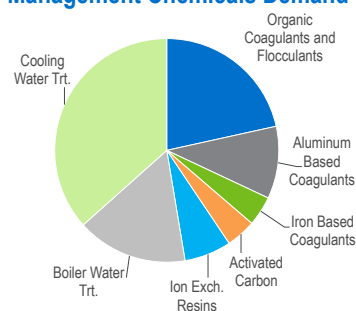
Water treatment technologies are essential in managing water sources. Each technology has its pros and cons and in some cases can complement each other. Groundwater initially requires sand filtration and aeration. Chlorinated city water is first treated with coagulants and flocculants, and then sent through activated carbon. Treated surface or wastewater requires ultra-filtration and UV disinfection. Seawater requires desalination.

The water management chemicals business operates in an environment that includes elements of almost all manufacturing industries, utilities, and municipalities globally. The major segments are municipal water and waste treating, sludge dewatering, refineries and chemicals, pulp and paper, steel, utilities, mining and other industries.

The market is made up of three tiers: commodity, performance and formulated products.

- The commodity segment includes alum (aluminium sulphate), ferric or ferrous chloride, ferric or ferrous sulphate. However, other inorganics could be considered between commodity and performance, such as polyaluminium chlorides (PAC), aluminium chlorohydrate (ACH), sodium aluminate and aluminium chloride. The aluminum and iron chemistries are primarily used to remove phosphorus from industrial and municipal wastewater. In this report, inorganic coagulants do not cover the disinfecting products and pH adjusters.
- Performance or specialty products include the organic coagulants and flocculants, activated carbon, and ion exchange resins, where performance and technical support are valued. Coagulants and flocculants include polyacrylamides (PAM), polyamines (PA), polydiallyldimethylammonium chloride (PolyDADM), resin amines (RA) and polyethyleneimines (PEI).
- Formulated chemical products include boiler water treatment and cooling water treatment chemicals, largely scale and corrosion inhibitors. Boiler water treatment requires oxygen scavengers and deaerators. Cooling water treatment includes biocides/algaecides to prevent biological fouling. Chelating agents, surfactants, biocides/disinfectants, anti-foams are not covered.

**Global Water Management Chemicals Demand by Product**





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