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## TERMS OF REFERENCE FOR A SOLICITED WRC PROJECT

<b>KEY STRATEGIC AREA</b>	KSA 3: Water Use, Wastewater Resources and Sanitation Futures
<b>THRUST</b>	Thrust 2: Water Quality Futures
<b>PROGRAMME</b>	Programme 2: Water quality regulation, compliance, and reporting
<b>TITLE</b>	A strategic market assessment on the production and safety of chemicals used for water, wastewater, and sludge management in South Africa

### Background and Rationale

Water/wastewater and sludge treatment for use and/or discharge typically involves several steps, which include the use of various chemicals to improve the final quality. Examples of chemicals that may be used include coagulants, flocculants, biocides, oxidants and disinfectants, corrosion inhibitors, pH stabilizers, and others. A strategic assessment of the supply/demand dynamics of treatment chemicals, will provide insights into strategies for managing current and future risks, as well as opportunities towards ensuring that there is adequate continuous supply, taking into consideration the poor water resources quality environment. Furthermore, information on specific chemicals needs and preferences for different chemical applications, will inform decisions on production, pricing, distribution, and promotion of current chemicals, as well as inform the development of new or improved chemicals to meet those needs. Although chemicals are used to improve the quality of the final product, it is important to note that they can also result in the introduction of new contaminants into the water and sludge. Therefore, this study is also aimed at investigating chemical usage and safety in water/wastewater and sludge treatment for use and/or discharge.

### Objectives (and scope):

The objectives of the project are to:

1. Conduct a detailed market analysis on water, wastewater, and sludge treatment chemicals in South Africa. The research should provide insights into the current state and future growth prospects of this market, including supply/demand trends, drivers, challenges, and opportunities. Market sizing and growth projections for the treatment chemicals market should be broken down by market share and profiles of key players in the market, including geography, manufacturing and import/export data; type of chemical (i.e., coagulants, flocculants, biocides and disinfectants, corrosion inhibitors, pH stabilizers, and others); and different treatment applications across all sectors (i.e. chemicals for potable water treatment, wastewater and sludge management/reuse, commercial/industrial water treatment, agricultural water/sludge uses, household water treatment and others). Based on this analysis, formulate recommendations for policy shifts to enable adequate chemicals supply, as well as growth and investment in this industry.
2. Conduct a detailed product use and cost analysis for different chemicals considering the different applications and quantities used, plant sizes, plant configurations, and final desired quality of the water and sludge for use and/or discharge into the environment.
3. Investigate the potential for each of the identified chemicals to introduce contaminants into the final water and sludge. Based on the findings, make recommendations to ensure that risks associated with the use of chemicals in water, wastewater and sludge management are managed.



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**Specific:**

The research must be representative of all the nine provinces in South Africa and may include global market data for comparison. Additionally, a combination of primary and secondary research methods, including interviews with industry experts, surveys, laboratory analysis, case studies and data analytics should be used for this study.

**Deliverables:**

- Inception report
- Annual progress report(s)
- Final report

**Time frame: 01 April 2024 – 31 March 2025**

**Budget: R600 000.00**