

C.5 SPECIFICATION(S)

1. SCOPE

- 1.1 The City of Cape Town utilises aluminium sulphate solution for pH adjustment and coagulation in the potable water treatment process. It is utilised on a continuous basis at Blackheath, Brooklands, Constantia Nek, Kloof Nek, Steenbras and Wemmershoek Water Treatment Plants (WTPs).
- 1.2 Other water treatments plants, such as Faure, Voelwei, Cape Flats, Strandfontein, etc., may require aluminium sulphate solution to be supplied on an ad-hoc basis.
- 1.3 The dosing of aluminium sulphate is a critical step in the water treatment process, ensuring that water leaving the treatment plant is safe and complies with legislated SANS 241 drinking water standards. Any shortage of supply may be detrimental to the City's water supply.
- 1.4 The Aluminium sulphate solution is to be supplied primarily in road tankers (preferably > 20 tonne payload) or, in 1000L Intermediate Bulk Containers (IBCs) where applicable and will need to be pumped or transferred into storage tanks.
- 1.5 Transport road tankers and IBC containers are not permitted to be utilised for delivery of other chemicals or substances.
- 1.6 Technical support is required for the maintenance of the dosing equipment, emergencies, technical evaluations, treatment optimisation and audits (where applicable). If not provided directly, this requirement can be done by a suitable external party.

2. CHEMICAL SPECIFICATION

- 2.1 The product to be supplied shall generally comply with the requirements of the South African National Standard, **SANS 50878:2023, Chemicals used for treatment of water intended for human consumption – Aluminium sulphate**
- 2.2 In addition, the Aluminium sulphate solution shall meet the following requirements:

Aluminium content (as Al g per kg product)	37 Min to a Max of 40
Density (g/cm ³)	1,2 – 1,4
- 2.3 The aluminium sulphate salt shall be in the range of 72 – 91 Al g / kg of product. This is Optional and may be tested at contract stage.
- 2.4 Heavy metal concentrations shall not exceed the Type 3 Limits indicated in the Standard.

3. PRODUCT QUANTITIES

- 3.1 The quantity of Aluminium sulphate required is estimated based on expected water consumption. The figures below are an indication of the quantities that would be required but the consumption figures cannot be guaranteed.
- 3.2 The City will order only those quantities which it actually requires from time to time and may not order any quantity at all depending on stock held and changing circumstances. Therefore, it is important to compile and update the plant requirements on a monthly basis.
- 3.3 Kloof Nek and Constantia Nek Water Treatment Plants are seasonal plants which may be shut down for extended periods. Steenbras, Wemmershoek, Blackheath and Brooklands Water Treatment Plants may