

Water Corporation of WA

Quality Specification for Liquid Ferric Sulphate

The liquid ferric sulphate supplied shall be suitable for the treatment of potable water supplies and shall comply with the AWWA Standard B406-97 for Liquid Ferric Sulphate.

1. Physical Requirements

The liquid ferric sulphate shall be a dark red-brown liquid.

2. Chemical Requirements

- 2.1 The liquid ferric sulphate shall contain approximately 42% w/w $\text{Fe}_2(\text{SO}_4)_3$.
- 2.2 The liquid ferric sulphate shall have a specific gravity of approximately 1.5.
- 2.3 The free acid expressed as H_2SO_4 shall not exceed 2.5% w/w.
- 2.4 The ferrous iron shall be less than 0.1% w/w.
- 2.5 The liquid ferric sulphate shall contain not more than 0.1 % w/w total insoluble matter.
- 2.6 The pH of the liquid ferric sulphate shall be less than 2 to ensure product stability.

3. Impurities

- 3.1 The liquid ferric sulphate delivered shall contain no substances in quantities capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with this product.
- 3.2 The liquid ferric sulphate shall contain not more than the maximum impurity concentrations (MIC) listed below and which relate to a maximum ferric sulphate ($\text{Fe}_2(\text{SO}_4)_3$) dose of 100 mg/L.

Maximum Impurity Concentrations (MIC)

	mg/kg
Aluminium, Al	200
Arsenic, As	7
Barium, Ba	700
Cadmium, Cd	2
Chromium, Cr	50
Mercury, Hg	1
Lead, Pb	10
Antimony, Sb	3
Selenium, Se	10
Silver, Ag	100
Manganese, Mn	600

- 3.3 The Water Corporation prefers a minimum manganese concentration in the liquid ferric sulphate.

4. Sampling and Testing

Sampling and testing shall be in accordance with AWWA Standard B406-97 for Liquid Ferric Sulphate or as agreed between both parties.

5. Quality Control

- 5.1 A certificate of analysis shall be supplied by the Contractor with each delivery of liquid ferric sulphate. The certificate of analysis shall contain the following information:

- Product Name
- Batch Number
- Date of Manufacture
- %m/m Fe₂(SO₄)₃
- SG
- Signature of Analyst

The certificate of analysis must be presented to the Water Corporation's Receiving Officer before the delivery is transferred to storage.

- 5.2 A more comprehensive analysis shall be carried out by the Contractor every 12 months to ensure that the product meets the Quality Specification. The analysis shall include all requirements of the Quality Specification.
- 5.3 A copy of the 12 monthly analysis shall be forwarded to the Water Corporation's Principal Chemist, Water Production Branch, Water Technologies Division and Supply Contract Administrator, Logistics Services Branch.

6. Tender Sample

The Tenderer shall supply with their tender a representative 500 mL sample of liquid ferric sulphate in a sealed plastic container. The sample is to be delivered to the Mirrabooka Groundwater Treatment Plant, 59 Alexander Drive, Koondoola. Attention: Greg Burkett (Telephone: 08 9209 0306).