

TECHNICAL SPECIFICATION SHEET

Product: Sulfuric Acid (H_2SO_4)

Uses: A liquid potable water grade product manufactured to EN 899: 2009 used for a range of applications in the water and waste water treatment industry.

General properties:

- A viscous, odourless, colourless liquid.
- Corrosive: causes severe burns (wear gloves and protective goggles when handling).
- Miscible in water in all proportions; much heat is given off on dilution.
- An excellent dehydrating compound.
- Concentrated solutions of sulphuric acid are oxidising when hot.
- Its action on metals depends on concentration and temperature.

Physical properties:

Main characteristics of the acid at 100% concentration:

- | | |
|--------------------------------------|--------------------------------|
| - Crystallisation point | +10°C |
| - Boiling point | +279.6°C |
| - Dynamic viscosity (mPa.s) | 24.54 @ 25°C |
| - Density (g/ml) | 1.83 @ 25°C |
| - Dielectric constant | 100 @ 25°C |
| - Conductivity ($ohm^{-1}cm^{-1}$) | 1.0439×10^{-2} @ 25°C |
| - Specific heat (kJ/kg) | 1.41 @ 25°C |
| - Latent heat of fusion (kJ/kg) | 107 @ 10.3°C |

Characteristics of aqueous solutions:

- The density and crystallisation point of Sulphuric acid preparations vary according to concentration

Storage:

The material to be used will be subject to the concentration of the acid, and storage capacity.

Corrosion increases with dilution and temperature.

- **Metals:** mild and stainless steel are recommended (for concentrated acids) for storing in large quantities.
- **Plastics:** Polyvinylidene fluoride (PVDF), polyethylene, etc.
- **Steel:** ebonite-or Polytetrafluorethylene- (PTFE), coated, otherwise PVDF is suitable for diluted acids.

The equipment should include the following:

- A catchment area of a sufficient capacity to contain any accidental leak or spill. The materials used should be acid resistant (brick, cement, ceramic).
- A vent of sufficient section sited at the highest point to allow the tank to breath during filling and emptying. This vent should be equipped with a desiccation so as to maintain a dry atmosphere inside the tank.

Health and Safety:

A safety data sheet is available for you to consult, containing safety data and instructions.

Specifications:

	96	Analytical method
(%) min	95.50	NFT 20-291 / ISO 910
Sulfur dioxide content(SO2) (mg/kg max)	50.00	NFT 20-293 / ISO 3423
Iron content (Fe) (mg/kg max)	20.00	NFT 20-253 / ISO 909
Lead content (Pb) (mg/kg max)	1.00	NFT 20-255 / ISO 2717
Arsenic content (As) (mg/kg max)	0.50	NFT 20-298 / ISO 5792
Chromium content (Cr) (mg/kg max)	1.00	Atomic absorption
Cadmium content (Cd) (mg/kg max)	0.05	Atomic absorption
Mercury content (Hg) (mg/kg max)	0.05	Atomic absorption
Fixed calcined residue (mg/kg max)	100	NFT 20-292 / ISO 913
