

PRODUCT SPECIFICATION: SPE.PROD.0009

Section 1 – GENERAL	
Product Name:	Sulphuric Acid, 98%, CP
Description: (98%)	Sulphuric acid, H ₂ SO ₄ , is a clear, oily, corrosive liquid.
Properties:	Density at 20 °C : 1,83 g/cm ³ Viscosity at 25 °C : 22 mPa.s Boiling point at 101,3 kPa : 330 °C Specific heat at 20 °C : 1,42 J/g °C Vapour pressure at 55 °C : < 1,2 Pa
Toxicity:	Has a rating of 4 in the Clinical Toxicology of Commercial Products (very toxic). The probable lethal dose (to humans) is 50 to 500 mg/kg of body mass. TWA OEL-RL: 1 mg/m ³
Hazards:	<p>The material is extremely corrosive to body tissue and contact with concentrated acid results in rapid destruction of tissue, causing severe burns. Ingestion may cause severe injury and can result in death. Repeated contact with dilute solution causes dermatitis. Inhalation of concentrated vapours and mists results in serious damage to lung tissue and can cause unconsciousness. Eye contact may result in serious damage and total loss of vision.</p> <p>The material is a very powerful acidic oxidizer which can ignite or even explode on contact with many materials; i.e. acetic acid, carbides, chlorates, fulminates, perchlorates, etc. It reacts exothermically with water and heat being released as steam.</p> <p>When heated the material emits highly toxic fumes. Dilute acid is corrosive to most metals with evolution of flammable hydrogen.</p>
Special Precautions:	Full protective clothing and a face shield must be worn when handling the material. Avoid ingestion, inhalation, skin and eye contact. Store away from combustibles, strong oxidising or reducing materials. Always add acid slowly to diluents.
Statutory Aspects:	UN 1830. Transported as Dangerous Good.

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	Chemical Initiatives (Pty) Ltd: Material Safety Data Sheet. Occupational Health and Safety Act, No:85 OF 1995
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Section 2 – SPECIFICATION

Appearance:	The material shall be a clear, oily liquid, free from sediment.
Colour:	Not more than the following Lovibond units: Red: 0,5 Yellow: 2,0 Blue: 0,4
Strength:	To lie within the range 98,0 % to 100 % (m/m) as H ₂ SO ₄
Non-volatiles:	Not more than 50 p.p.m. (m/m)
Chlorides:	Not more than 3 p.p.m. (m/m) as Cl
Nitrates:	Not more than 10 p.p.m. (m/m) as NO ₃
Iron:	Not more than 1.5 p.p.m. (m/m) as Fe
Heavy metals:	Not more than 5 p.p.m. (m/m) as Pb
Oxidisable Impurities:	Not more than 5 p.p.m. (m/m) as SO ₂
Arsenic:	Not more than 2 p.p.m. (m/m) as As
Ammonia:	Not more than 50 p.p.m. (m/m) as NH ₃
Selenium:	Not more than 20 p.p.m. (m/m) as Se
Copper:	Not more than 1 p.p.m. (m/m) as Cu

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Nickel:	Not more than 0,5 p.p.m. (m/m) as Ni
Zinc:	Not more than 22 p.p.m. (m/m) as Zn

Section 3 – TESTING
TESTING

The material is sampled and tested according to the most recent editions of the Sampling Procedures and Analytical Schedule respectively. The sample is tested to the most recent edition of the method specified.

<u>PARAMETER</u>	<u>METHOD NO.</u>
3.1 Appearance	UMBOG 54
3.2 Colour	UMBOG 54
3.3 Strength	UMBOG 54
3.4 Non-volatiles	UMBOG 54
3.5 Chlorides	UMBOG 54
3.6 Nitrates	UMBOG 54
3.7 Iron	UMBOG 54
3.8 Heavy Metals	UMBOG 54
3.9 Oxidisable Impurities	UMBOG 54
3.10 Arsenic	UMBOG 54
3.11 Ammonia	UMBOG 54
3.12 Selenium	UMBOG 63
3.13 Copper	UMBOG 54
3.14 Manganese	UMBOG 54
3.15 Nickel	UMBOG 54
3.16 Zinc	UMBOG 54

This material is manufactured and tested at: Umbogintwini Factory.

Section 4 – PACKING

Bulk in road, IBC's, multi barrels and polycans.

Section 5 – DOCUMENTATION

This specification is based on: Information from Umbogintwini Factory.

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Section 6 – USES

As an analytical reagent.
In the manufacture of pure chemicals.
In the manufacture of battery acid.

Section 7 – REASON FOR REVISION

June 2013 – New template