Sanquin Reagents Safety Data Sheet
According to EC Directive 2001/58/EC

Sanquin

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1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No: M1822 / M198005
Product name: **Stop solution (Sulfuric acid, 1.7% (w/v))**

Use of the substance/preparation ELISA purposes (according to manual in ELISA kit)

Company/undertaking identification

Company: Sanquin Reagents, Amsterdam, The Netherlands * Phone: +31 205123599

Emergency telephone No.: +31 205123333

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2. Composition/information (on sulfuric acid 95-98% extra pure)

CAS-No. : 7664-93-9
M : 98.08 g/mol
Formula Hill : H_2O_4S
Chemical formula : H_2SO_4
EC-Index-No. : 016-020-00-8
EC-No. : 231-639-5

Hazardous ingredients:

Name according to EC Directives:

CAS-No.	*EC No.*	*EC-Index-No.*	*Classification*	*Content:*
Sulphuric acid 7664-93-9	231-639-5	016-020-00-8	C; R35	95- <98 %

(Full text of R-Phrases in heading 16)

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3. Hazards identification (on sulfuric acid 95-98% extra pure)

Causes severe burns

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4. First aid measures (on sulfuric acid 95-98% extra pure)

After inhalation: fresh air. Call in physician.
After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400.
Immediately remove contaminated clothing.
After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open.
Immediately call in ophthalmologist.
After swallowing: make victim drink plenty of water (if necessary several litres), avoid vomiting (risk of perforation!). Immediately call in physician. Do not attempt to neutralize.

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5. Fire-fighting measure (on sulfuric acid 95-98% extra pure)

Suitable extinguishing media:
In adaption to materials stored in the immediate neighbourhood.

Special risks:
Non-combustible. Ambient fire may liberate hazardous vapours. Hydrogen may form upon contact with metals (danger of explosion!). The following may develop in event of fire: sulfur oxides.

Special protective equipment for fire fighting.
Do not stay in dangerous zone without suitable chemical protection clothing and self-contained. breathing apparatus.

Other information:
Prevent fire-fighting water from entering surface water or groundwater. Contain escaping vapours with water.

6. Accidental release measures (on sulfuric acid 95-98% extra pure)

Person-related precautionary measures:
Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up with liquid-absorbent and neutralizing material.
Forward for disposal. Clean up affected area.

7. Handling and storage (on sulfuric acid 95-98% extra pure)

Handling:
No further requirements.
Storage:

Tightly closed. In a well-ventilated place. Keep away from sources of ignition and heat. At +15°C to +25°C.
Accessible only for authorized persons.

8. Exposure controls/personal protection (on sulfuric acid 95-98% extra pure)

Personal protective equipment:
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection:	required when vapour/aerosols are generated
Eye protection:	required.

Hand protection:
In full contact:

Glove material	: viton
Layer thickness	: 0.70 mm
Breakthrough time	: >480 Min.

In splash contact:

Glove material	: butyl rubber
Layer thickness	: 0.7 mm
Breakthrough time	: >120 Min.

Other protective equipment:
Acid-resistant protective clothing.

Industrial hygiene:
Change contaminated clothing and immerse in water.
Apply skin-protective barrier cream.
Wash hands and face after working with substance.

9. Physical and chemical properties (on sulfuric acid 95-98% extra pure)

Form	: liquid
Colour	: colourless
Odour	: odourless
pH value at 49g/l H_2O (25 °C)	: 0.3
Viscosity dynamic (20 °C)	: 26.9 mPa*s
Melting point	: ~-15°C
Boiling point	: ~310°C
Ignition temperature	: not applicable
Flash point	:not applicable
Explosition limits lower	: not applicable
upper	: not applicable
Vapour pressure (20°C)	: ~ 0.0001 hPa
Relative vapour density	: ~ 3.4
Density (20 °C)	: 1.84 g/cm^3
Solubility in	
water (20 °C)	: soluble (caution! Development of heat)
ethanol	: soluble (caution! Development of heat)
Thermal decomposition	: ~ 338°C

10. Stability and reactivity (on sulfuric acid 95-98% extra pure)

Conditions to be avoided
Strong heating.

Substances to be avoided
Water, alkali metals, alkali compounds, ammonia, alkaline earth metals, alkalis, acids, alkaline earth compounds, metals, metal alloys, phosphorus oxides, phosphorus, hydrides, halogen-halogen compounds, oxyhalogenic compounds, permanganates, nitrates, carbides, combustible substances, organic solvents, acetylidene, nitriles, organic nitro compounds, anilines, peroxides, picrates, nitrides, lithium silicide.

Hazardous decomposition products
In the event of fire: See chapter 5.

Further information
Hygroscopic; has a corrosive effect;
incompatible with metals, animal/vegetable tissues.

11. Toxicological information (on sulfuric acid 95-98% extra pure)

Acute toxicity

LC_{50} (inhalation, rat): 510 mg/m^3/2h (calculated on the pure substance).
LC_{50} (oral, rat): 2140 mg/kg (Using 25% solution).

Specific symptoms in animal studies:
Eye irritation test (rabbit): burns.
Skin irritation test (rabbit): burns.
Toxicologic values are not available due to other dangerous properties of the substance.

Subacute to chronic toxicity
Applicable to partial component(s):
Bacterial mutagenicity: Ames test: negative.
No teratogenic effect in animal experiments.

Further toxicological information
Property that must be anticipated on the basis from the components of the preparation:
After inhalation of aerosols: damage to the affected mucous membranes.
After skin contact: severe burns with formation of scabs.
After eye contact: burns, corneal lesions.
After swallowing: severe pain (risk of perforation!), nausea, vomiting and diarrhoea.
After a latency period of several weeks possibly pyloric stenosis.

Further data
The product should be handled with the care usual when dealing with chemicals.

12. Ecological information (on sulfuric acid 95-98% extra pure)

Biologic degradation:
Methods for the determination of biodegradability are not applicable to inorganic substances.

Behaviour in environmental compartments:
Concentration in organisms is not to be expected.

Ecotoxic effects:
Quantitative data on the ecological effect of this product are not available.

Further ecologic data:
The following applies to sulfuric acid: biological effects: harmful effect on aquatic organisms. Harmful effect due to pH shift. Toxic effect on fish and algae. Caustic even in diluted form. Does not cause biological oxygen deficit. Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities. Neutralization possible in waste water treatment plants. Daphnia toxicity: Daphnia magna EC_{50}: 29mg/1/24 h (calculated on the pure substance).

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations (on sulfuric acid 95-98% extra pure)

Product:
Chemicals must be disposed of in compliance with the respective national regulations.

Packaging:
Sanquin Reagents product packaging must be disposed of in compliance with the country-specific regulations.

14. Transport information (on sulfuric acid 95-98% extra pure)

Land transport ADR, RID
UN 1830 SCHWEFELSAEURE,8,II

Transport by river ADN, ADNR not tested

Transport by sea IMDG, GGVSee
UN 1830 SULPHURIC ACID, 8, II
Ems 8-06

Transport by air CAO, PAX
SULPHURIC ACID, 8, UN 1830, II

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVSE). Possible national deviations in other countries are not considered.

15. Regulatory information (on sulfuric acid 95-98% extra pure)

Labelling according to EC Directives

Symbol	:	C	Corrosive.
R-phrases	:	35	Causes severe burns.
S-phrases	:	26-30-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Never add water to this product. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
EC-No.	:	231-639-5	EC label

Reduced labelling (1999/45/EC, Art.10,4)

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S-phrases	:	26-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advise. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. Other information (on sulfuric acid 95-98% extra pure)

Text of any R phrases referred to under heading 2:
35 Causes severe burns.

Reason for alteration
N.a.

Regional representation:
N.a.

The information contained herein is based on the present state of our knowledge as of the date of this document. It characterizes the product ***(sulfuric acid 95-98% extra pure)*** *with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.*