

Sulphuric Acid Solution

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME ***Sulphuric acid, 5% v/v Aqueous Solution***
PRODUCT NO. QF1983
SUPPLIER Crownhill Associates Ltd
The Old Station Yard, Station Road
Wilburton, CB6 3PZ
T: (01353) 749990 F: (01353) 749991

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization:

Designation: (CAS#) Sulphuric acid, 5% Water, 95%

Identification number(s):

EINECS Number: 231-639-5

EC Number: 016-020-00-8

3 HAZARDS IDENTIFICATION

Hazard designation: C Corrosive

Information pertaining to particular dangers for man and environment: R 35 Causes severe burns.

4 FIRST-AID MEASURES

General information Instantly remove any clothing soiled by the product.

After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. Seek immediate medical advice.

After skin contact Instantly wash with water and soap and rinse thoroughly. Seek immediate medical advice. If possible, because of the high heat of dilution, quickly wipe residual acid off the skin before starting water wash.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Seek immediate medical advice.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing agents Use fire fighting measures that suit the environment.

For safety reasons unsuitable extinguishing agents Water.

Special hazards caused by the material, its products of combustion or flue gases: Exothermic reaction with water

Can be released in case of fire: Sulphur dioxide (SO₂)

Protective equipment: Wear self-contained breathing apparatus. Wear full protective suit.

6 ACCIDENTAL RELEASE MEASURES

Person-related safety precautions: Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Measures for environmental protection: Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent. Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.

7 HANDLING AND STORAGE

Handling

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Information for safe handling: Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.

Information about protection against

explosions and fires: No special measures required.

Storage

Requirements to be met by storerooms and containers: No special requirements.

Information about storage in one common storage facility: Do not store together with alkalis (caustic solutions). Store away from oxidizing agents. Store away from reducing agents.

Further information about storage

conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace: Sulphuric acid

mg/m³
ACGIH TLV 0.2 (thoracic fraction)
Austria MAK 1
Belgium TWA 1; 3-STEL
Denmark TWA 1
Finland TWA 1; 3-STEL
France VME 1; 3-VLE
Germany MAK 0.1; 0.2-CEILING (inhalable fraction)
Hungary 1-STEL
Japan OEL 1
Korea TLV 0.2 (thoracic fraction)
Netherlands MAC-TGG 1
Norway TWA 1
Poland TWA 1; 3-STEL
Russia 1-STEL (skin)
Sweden NGV 1; 3-TKV
Switzerland MAK-W 1; 2-KZG-W
United Kingdom TWA 1
USA PEL 1

Additional information: No data

Personal protective equipment

General protective and hygienic measures The usual precautionary measures should be adhered to in handling the chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin.

Breathing equipment: Use breathing protection with high concentrations.

Eye protection: Safety glasses tightly sealed safety glasses. Full face protection Face protection

Body protection: Protective work clothing.

9 PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Liquid

Colour: Clear

Smell: Odourless

Change in condition

Melting point/Melting range: Not determined

Boiling point/Boiling range: Not determined

Sublimation temperature / start: Not determined

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Flash point: Not determined
Ignition temperature: Not determined
Decomposition temperature: Not determined
Danger of explosion: Product is not explosive.
Critical values for explosion:
Lower: Not determined
Upper: Not determined
Steam pressure: Not determined
Density: Not determined

Solubility in / Miscibility with Water: Exothermic reaction with water

10 STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.'

Materials to be avoided: Bases

Oxidizing agents
Reducing agents
Organic materials
Metal powders
Sulfides
Cyanides

Dangerous reactions: Exothermic reaction with water

Dangerous products of decomposition: Sulphur dioxide
Heat

11 TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC50 values that are relevant for

classification: Sulfuric acid (CAS# 7664-93-9)

ORAL: LD50: 2140 MG/KG (RAT)

INHALATIVE: LC50/2H: 320 MG/M3/2H (MUS)

INHALATIVE: LC50/2H: 510 MG/M3/2H (RAT)

INHALATIVE: LC50: 18 MG/M3 (GPG)

IRRITATION OF EYES: SEVERE: 250 µG (RBT)

IRRITATION OF EYES: SEVERE: 20 MG/30S (RBT)

Primary irritant effect:

on the skin: Strong caustic effect on skin and mucous membranes.

Irritant for skin and mucous membranes.

on the eye: Strong caustic effect.

Irritant effect.

Sensitization: No sensitizing effect known.

Additional toxicological information: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 ECOLOGICAL INFORMATION

General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 DISPOSAL CONSIDERATIONS

Product: Recommendation Consult state, local or national regulations for proper disposal. Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

14 TRANSPORT INFORMATION

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)

ADR/RID-GGVS/E Class: 8 (C1) Corrosive substances.

Kemler Number: 80

UN-Number: 2796

Packaging group: II

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Label 8

Designation of goods: 2796 SULPHURIC ACID

Limited quantities (LQ) LQ22

Transport category 2

Tunnel restriction code E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 8

UN Number: 2796

Label 8

Packaging group: II

Correct technical name: SULPHURIC ACID

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8

UN/ID Number: 2796

Label 8

Packaging group: II

Correct technical name: SULPHURIC ACID

15 REGULATORY INFORMATION

Designation according to EC guidelines:

Code letter and hazard designation of product: C Corrosive

Risk phrases: 35 Causes severe burns.

Safety phrases: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

30 Never add water to this product.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations

Information about limitation of use: Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

15 REGULATORY INFORMATION

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy or reliability.