

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Honeywell

Sulfuric acid 95-97 %

Version 2.0

Revision Date 29.07.2015

Supersedes 1

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

1.1. Product identifier

Product name : Sulfuric acid 95-97 %

SDS-number : 000000017685

Type of product : Mixture

Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Chemical-Technical application

Uses advised against : none

Short title of exposure scenarios : Use as intermediate in manufacture of inorganic and organic chemicals including fertilizers (industrial)
Use as processing aid. (industrial)
Use for extraction and processing of minerals and ores (industrial).
Use for surface treatment (industrial).
Use in electrolytic processes (industrial).
Use in gas purification (industrial).
Use in production of lead acid batteries (industrial).
Maintenance of lead acid batteries (professional).
Recycling of lead acid batteries (industrial).
Use as laboratory chemical (professional).
Use for industrial cleaning (industrial).
Use in formulation (industrial).
Use of lead acid batteries (consumers).

1.3. Details of the supplier of the safety data sheet

Company : Honeywell Specialty Chemicals Seelze GmbH
Wunstorfer Straße 40
30926 Seelze
Germany

Honeywell International, Inc.
101 Columbia Road
Morristown, NJ 07962-1057
USA

Telephone : (49) 5137-999 0

Telefax : (49) 5137-999 123

For further information, please contact: : PMTEU Product Stewardship:
SafetyDataSheet@Honeywell.com

1.4. Emergency telephone number

Emergency telephone number : (49) 5137-999 0(Seelze)
+1-703-527-3887(ChemTrec)
+1-303-389-1414(Medical)

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2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin corrosion Category 1A

H314 Causes severe skin burns and eye damage.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

H314

Causes severe skin burns and eye damage.

Precautionary statements

:

P281

Use personal protective equipment as required.

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P304 + P340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Hazardous components
which must be listed on the
label

:

sulphuric acid

2.3. Other hazards

Extremely corrosive and destructive to tissue. Reacts violently with water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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3.1. Substance

Not applicable

3.2. Mixture

Chemical Name	CAS-No. Index-No. Registration number EC-No.	Classification 1272/2008	Concentration	Remarks
sulphuric acid (Active ingredient)	7664-93-9 016-020-00-8 01-2119458838-20 231-639-5	Skin Corr. 1A; H314	>= 50 - <= 100	1*

1* - For specific concentration limits see Annexes of 1272/2008

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact:

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Call a physician immediately.

Eye contact:

Protect unharmed eye. Irrigate eyes for at least 15 minutes with copious quantities of water, keeping eyelids apart and away from eyeballs during irrigation. Small amounts splashed into eyes can cause irreversible tissue damage and blindness. Call a physician immediately.

Ingestion:

Clean mouth with water and drink afterwards plenty of water. Magnesium hydroxide (milk of Magnesia) as an antacid may be given. Do NOT induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

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no data available

4.3. Indication of any immediate medical attention and special treatment needed

no data available

See Section 11 for more detailed information on health effects and symptoms.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:

Foam

Carbon dioxide (CO₂)

Dry powder

Extinguishing media which shall not be used for safety reasons:

Water

Do NOT use water jet.

Contact with a relatively small quantity of water creates violent reaction generating much heat and spattering of hot acid

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:

Sulphur oxides

Some risk may be expected of corrosive and toxic decomposition products.

Exposure to decomposition products may be a hazard to health.

Cool closed containers exposed to fire with water spray.

In case of a spillage, the resulting acid solution may attack many metals with liberation of hydrogen which is flammable and forms explosive mixture with air

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

No unprotected exposed skin areas.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn. Collect contaminated fire extinguishing water separately.

This must not be discharged into drains.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities. Suppress (knock down) gases/vapours/mists with a water spray jet.

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6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.
Pick for disposal in tightly closed containers
Do not direct water spray at the point of leakage.

6.4. Reference to other sections

For personal protection see section 8.

7. HANDLING AND STORAGE**7.1. Precautions for safe handling***Advice on safe handling:*

Use only acid resistant equipment. Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Ventilators required at emission site. Wear personal protective equipment. Wash parts with an aqueous solution of calcium hydroxide. When diluting, always add the product to water. Never add water to the product.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection. In case of a spillage, the resulting acid solution may attack many metals with liberation of hydrogen which is flammable and forms explosive mixture with air

Hygiene measures:

Separate rooms are required for washing, showering and changing clothes. Contaminated work clothing should not be allowed out of the workplace. Keep working clothes separately. Take off all contaminated clothing immediately. Wash hands before breaks and at the end of workday. Avoid contact with the skin and the eyes.

7.2. Conditions for safe storage, including any incompatibilities*Further information on storage conditions:*

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Product is hygroscopic. Do not leave vessels/containers open. Containers should be protected against falling down. Avoid product residues in/on containers

7.3. Specific end use(s)

no additional data available

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
sulphuric acid	EU ELV TWA	0,05 mg/m3 Mist		Indicative
sulphuric acid	EH40 WEL TWA	0,05 mg/m3		

TWA - Time weighted average

DNEL/ PNEC-Values

Component	End-use / Impact	Exposure duration	Value	Exposure routes	Remarks
sulphuric acid	Workers / Acute local effects		0,1 mg/m3	Inhalation	
sulphuric acid	Workers / Long-term local effects		0,05 mg/m3	Inhalation	

Component	Environmental compartment / Value	Remarks
sulphuric acid	Sew age treatment plant: 8,8 mg/l	
sulphuric acid	Fresh water: 0,025 mg/l	
sulphuric acid	Marine water: 0,25 mg/l	
sulphuric acid	Fresh water sediment: 0,002 mg/l	
sulphuric acid	Marine sediment: 0,002 mg/l	

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, safety shoes EN-ISO 20345.

Engineering measures

Use with local exhaust ventilation.
Emergency sprinkling nozzle
acid resisting floor

Personal protective equipment

Respiratory protection:

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In the case of vapour formation use a respirator with an approved filter.

Hand protection:

Glove material: Viton (R)

Break through time: > 480 min

Glove thickness: 0,7 mm

Vitoject® 890

Gloves must be inspected prior to use.

Replace when worn.

Remarks: Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety goggles

Skin and body protection:

acid-proof protective clothing

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form	:	liquid
Colour	:	colourless
Odour	:	odourless
Melting point/range	:	-14 - -10 °C
Boiling point/boiling range	:	ca. 310 °C at 1.013 hPa
Flash point	:	Not applicable
Flammability (solid, gas)	:	Not applicable
Ignition temperature	:	Not applicable
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

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Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Vapour pressure	: 0,01 hPa at 55 °C
Vapour pressure	: < 0,0001 hPa at 20 °C
Density	: ca. 1,840 g/cm3 at 20 °C
Viscosity, dynamic	: 21 mPa.s
pH	: acidic
Water solubility	: completely soluble
Partition coefficient: n-octanol/water	: no data available

9.2 Other Information

no additional data available

10. STABILITY AND REACTIVITY

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

ca.338 °C
Decomposition temperature

10.3. Possibility of hazardous reactions

Potential for exothermic hazard

10.4. Conditions to avoid

Protect from atmospheric moisture and water.
Corrodes metals in the presence of water or moisture.

10.5. Incompatible materials

Reacts violently with water.
On dilution or dissolving in water, considerable heating always occurs.
Gives off hydrogen by reaction with metals.

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Reactions with combustible substances.
Incompatible with bases.

10.6. Hazardous decomposition products

Sulphur dioxide
Sulphur trioxide

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute oral toxicity:

LD50

Species: Rat

Value: 2.140 mg/kg

Acute dermal toxicity:

no data available

Acute inhalation toxicity:

LC50

Species: Rat

Value: 375 mg/m³

Exposure time: 4 h

Method: OECD Test Guideline 403

Skin irritation:

Extremely corrosive and destructive to tissue.

Eye irritation:

Extremely corrosive and destructive to tissue.

Respiratory or skin sensitisation:

no data available

Aspiration hazard:

no data available

Other information:

Slow-healing wounds. Mists can cause lung damage. Lethal dosis for humans, oral: 1-5 ml conc. sulphuric acid

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish:

LC50

Species: *Lepomis macrochirus* (Bluegill sunfish)

Value: 16 - 28 mg/l

Exposure time: 96 h

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Toxicity to aquatic plants:

IC50

Growth rate

Species: *Desmodesmus subspicatus* (green algae)

Value: > 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to aquatic invertebrates:

EC50

Immobilization

Species: *Daphnia magna* (Water flea)

Value: > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

12.2. Persistence and degradability

no data available

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

The product should not be allowed to enter drains, water courses or the soil.

The methods for determining biodegradability are not applicable to inorganic substances.

The product causes no biological oxygen consumption.

Neutralisation will reduce ecotoxic effects.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product:

Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

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Regulation No. 1013/2006

For personal protection see section 8.

14. TRANSPORT INFORMATION

ADR/RID

UN Number : 1830
Description of the goods : SULPHURIC ACID
Class : 8
Packaging group : II
Classification Code : C1
Hazard Identification Number : 80
ADR/RID-Labels : 8
Environmentally hazardous : no

IATA

UN Number : 1830
Description of the goods : Sulphuric acid
Class : 8
Packaging group : II
Hazard Labels : 8

IMDG

UN Number : 1830
Description of the goods : SULPHURIC ACID
Class : 8
Packaging group : II
Hazard Labels : 8
EmS Number : F-A, S-B
Marine pollutant : no

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL.

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

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Korea. Toxic Chemical Control Law (TCCL) List
On the inventory, or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

Text of H-statements referred to under heading 3

Sulphuric acid : H314 Causes severe skin burns and eye damage.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate an amendment from the previous version.

Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative and toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

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