

## Silver sulfate-Sulfuric acid solution

34629-1L

Version 1.3

Revision Date 24.01.2021

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name : Silver sulfate-Sulfuric acid solution  
 SDS-number : 000000021872  
 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 : Laboratory chemicals  
 Uses advised against : none

#### 1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:		
For further information, please contact:	:	SafetyDataSheet@Honeywell.com	

#### 1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)  
 +1-303-389-1414 (Medical)  
 Country based Poison Control Center : see chapter 15.1

### SECTION 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.

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Short-term (acute) aquatic hazard Category 1  
H400 Very toxic to aquatic life.  
Long-term (chronic) aquatic hazard Category 1  
H410 Very toxic to aquatic life with long lasting effects.

### 2.2. Label elements

#### REGULATION (EC) No 1272/2008

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H314 Causes severe skin burns and eye damage. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 Wear respiratory protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 + P352 IF ON SKIN: Wash with plenty of water. P304 + P340 IF INHALED: Remove person to fresh air and keep 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

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

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
sulphuric acid	7664-93-9 016-020-00-8 231-639-5	Skin Corr. 1A; H314	$\geq 50\%$ - $\leq 100\%$	Skin Corr. 1A; H314: $\geq 15\%$ Eye Irrit. 2; H319:5 - $< 15\%$ Skin Irrit. 2; H315:5 - $< 15\%$
Silver sulfate	10294-26-5 233-653-7	Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	$\geq 0,25\%$ - $< 2,5\%$	M(Aquatic Acute) = 1.000 M(Aquatic Chronic) = 100

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.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.

*Inhalation:*

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If inhaled, remove to fresh air. 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 immediately all contaminated clothing. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

*Eye contact:*

Protect unharmed eye. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Small amounts splashed into eyes can cause irreversible tissue damage and blindness. Call a physician immediately.

*Ingestion:*

Rinse mouth with water. If victim is fully conscious, give a cupful of water. Do NOT induce vomiting. Call a physician immediately.

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

No data available

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

Treat symptomatically.

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

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*

Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

*Extinguishing media which shall not be used for safety reasons:*

Water

### 5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:  
Sulphur oxides  
Metal oxides

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### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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## SECTION 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. Provide adequate ventilation.

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.  
Pick for disposal in tightly closed containers  
Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

When diluting, add acids to water, never the other way around. Use only acid resistant equipment. Exhaust ventilation at the object is necessary.

*Advice on protection against fire and explosion:*

The product itself does not burn. Normal measures for preventive fire protection.

*Hygiene measures:*

Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. Wash hands before breaks and at the end of workday. When using do not eat or drink.

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### 7.2. Conditions for safe storage, including any incompatibilities

*Further information on storage conditions:*

Store in original container. Keep containers tightly closed in a cool, well-ventilated place.

### 7.3. Specific end use(s)

no additional data available

## SECTION 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/m <sup>3</sup>  Mist		Indicative
sulphuric acid	EH40 WEL TWA	0,05 mg/m <sup>3</sup>		
Silver sulfate	EH40 WEL TWA	0,01 mg/m <sup>3</sup>  as Ag		
Silver sulfate	EU ELV TWA	0,01 mg/m <sup>3</sup>  as Ag		Indicative

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/m <sup>3</sup>	Inhalation	
sulphuric acid	Workers / Long-term local effects		0,05 mg/m <sup>3</sup>	Inhalation	

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Silver sulfate				No data available
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Component	Environmental compartment / Value	Remarks
sulphuric acid	Sewage 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	
Silver sulfate	Fresh water: 0,00004 mg/l	
Silver sulfate	Marine water: 0,00086 mg/l	
Silver sulfate	Sewage treatment plant: 0,025 mg/l	
Silver sulfate	Fresh water sediment: 438,13 mg/kg dw	
Silver sulfate	Marine sediment: 438,13 mg/kg dw	
Silver sulfate	Soil: 0,794 mg/kg dw	

### 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, 511; safety shoes EN-ISO 20345.

Do not breathe vapours or spray mist.

#### Engineering measures

Use with local exhaust ventilation.

#### Personal protective equipment

##### Respiratory protection:

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

##### Hand protection:

Glove material: Viton®

Break through time: > 480 min

Glove thickness: 0,7 mm

Vitoject® 890

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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

Face-shield

### *Skin and body protection:*

Wear suitable protective equipment.

Wear as appropriate:

acid-proof protective clothing

### **Environmental exposure controls**

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

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

Physical state	:	liquid
Colour	:	colourless
Odour	:	odourless
Melting point/range	:	No data available
Boiling point/boiling range	:	338 °C at 1.013 hPa The physical data is that of the main component.
Flammability	:	Not applicable



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Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Flash point	:	Not applicable
Ignition temperature	:	Not applicable
pH	:	acidic
Auto-ignition temperature	:	not auto-flammable
Viscosity, kinematic	:	No data available
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	Not applicable
Vapour pressure	:	No data available
Density	:	ca. 1,85 g/cm <sup>3</sup> at 20 °C
Bulk density	:	Not applicable
Relative vapour density	:	No data available

### 9.2 Other Information

Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Corrosive to metals	:	Not corrosive to metals
Evaporation rate	:	No data available
Viscosity, dynamic	:	No data available

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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Stable under recommended storage conditions.

### 10.2. Chemical stability

No decomposition if used as directed.

### 10.3. Possibility of hazardous reactions

Reacts violently with water.  
Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Corrodes metals in the presence of water or moisture.

### 10.5. Incompatible materials

Gives off hydrogen by reaction with metals.  
When diluting, add acids to water, never the other way around.  
On dilution or dissolving in water, considerable heating always occurs.

### 10.6. Hazardous decomposition products

Sulfur oxides (SO<sub>x</sub>)  
Metal oxides

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Acute oral toxicity:*

Toxicity is determined by the corrosivity of the product.

*Acute dermal toxicity:*

Toxicity is determined by the corrosivity of the product.

*Acute inhalation toxicity:*

Toxicity is determined by the corrosivity of the product.

*Skin irritation:*

Test substance: Sulphuric acid  
Classification based on Annex VI of regulation 1272/2008/EC.

*Eye irritation:*

Test substance: Sulphuric acid

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Classification based on Annex VI of regulation 1272/2008/EC.

*Respiratory or skin sensitisation:*

No data available

*Carcinogenicity:*

Note: Not classified due to data which are conclusive although insufficient for classification.

*Germ cell mutagenicity:*

Test substance: Sulphuric acid

Note: Not classified due to data which are conclusive although insufficient for classification.

*Reproductive toxicity:*

Remarks: Not classified due to data which are conclusive although insufficient for classification.

*Aspiration hazard:*

No data available

### 11.2. Information on other hazards

Endocrine disrupting properties

No data available

*Other information:*

No data available

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## SECTION 12: Ecological information

### 12.1. Toxicity

*Toxicity to fish:*

No data available

*Toxicity to aquatic plants:*

No data available

*Toxicity to aquatic invertebrates:*

No data available

### 12.2. Persistence and degradability

*Biodegradability:*

No data available

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### 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. Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

If it is not neutralised, observe pH value.

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## SECTION 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

Regulation No. 1013/2006

For personal protection see section 8.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID:3264

IMDG:3264

IATA:3264

### 14.2 UN proper shipping name

ADR/RID:CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID, DISILVER(1+) SULPHATE)

IMDG:CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID,DISILVER(1+) SULPHATE)

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according to Regulation (EC) No. 1907/2006

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IATA:Corrosive liquid, acidic, inorganic, n.o.s.(Sulphuric acid, Disilver(1+) sulphate)

**14.3 Transport hazard class(es)**

ADR/RID: 8

IMDG: 8

IATA: 8

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID: yes

Marine pollutant: yes

**14.6 Special precautions for user**

IMDG Code segregation group 1 – ACIDS,

**14.7 Maritime transport in bulk according to IMO instruments**

No data available

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : E1: Hazardous to the aquatic environment	Quantity: 100.000 kg Quantity: 200.000 kg	
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors		Contains components listed in

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300

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Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	
Latvia	+37167042473

Poland	+48 42 25 38 400
Portugal	808250143
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Gifftinformation); +46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

**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

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)

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On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
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 not been carried out.

## SECTION 16: Other information

### Text of H-statements referred to under heading 3

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

Silver sulfate : H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

### Further information

All directives and regulations refer to amended versions.

Vertical lines in the left hand margin indicate a relevant 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 biaccumulative substance

PBT Persistent, bioaccumulative und 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

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materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.  
This information should not constitute a guarantee for any specific product properties.

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