

Silver nitrate

31630-100G

Version 1.3

Revision Date 17.12.2022

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

1.1. Product identifier

Product name : Silver nitrate
SDS-number : 000000020262
Type of product : Substance
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name : Silver nitrate
Index-No. : 047-001-00-2
REACH Registration Number : no data available

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
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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 : see chapter 15.1

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SECTION 2: Hazards identification


2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Oxidizing solids Category 2
H272 May intensify fire; oxidizer.
Corrosive to metals Category 1
H290 May be corrosive to metals.
Skin corrosion Category 1B
H314 Causes severe skin burns and eye damage.
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	:	H272 May intensify fire; oxidizer. H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P234 Keep only in original container. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/protective clothing/eye protection/face protection.

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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.

2.3. Other hazards

Avoid breathing dust. Oxidizer. Contact with other material may cause fire.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
Silver nitrate	7761-88-8 047-001-00-2 231-853-9	Ox. Sol. 2; H272 Met. Corr. 1; H290 Skin Corr. 1B; H314 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 90 % - <= 100 %	M(Aquatic Acute) = 1.000 M(Aquatic Chronic) = 100

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.

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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.

Inhalation:

If inhaled, remove to fresh air. Call a physician.

Skin contact:

Wash off immediately with plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact:

Protect unharmed eye. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion:

A person suspected to have swallowed the substance who is conscious should be given water to drink. Take to a doctor immediately together with this card

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:

Water spray jet

Foam

Carbon dioxide (CO₂)

Dry powder

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

nitrogen oxides

The product itself does not burn.

Strong oxidizer. Contact with other material may cause fire.

5.3. Advice for firefighters

Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.

No unprotected exposed skin areas.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Unprotected persons must be kept away.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.

6.3. Methods and materials for containment and cleaning up

Use mechanical handling equipment.

Protect from contamination.

Keep in suitable, closed containers for disposal.

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6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Wear personal protective equipment. Never return unused material to storage receptacle. Protect against light. Exhaust ventilation at the object is necessary.

Advice on protection against fire and explosion:

The product itself does not burn. Keep away from combustible material.

Hygiene measures:

Avoid contact with skin, eyes and clothing. Keep working clothes separately. Separate rooms are required for washing, showering and changing clothes.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

Keep only in the original container, tightly closed, in a well ventilated place. 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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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Silver nitrate	EH40 WEL	as Ag		Listed
Silver nitrate	EH40 WEL TWA	0,01 mg/m ³ as Ag		
Silver nitrate	EU ELV TWA	0,01 mg/m ³ as Ag		Indicative

TWA - Time weighted average

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Silver nitrate	Workers / Long-term systemic effects		0,016 mg/m ³	Inhalation	
Silver nitrate	Consumers / Long-term systemic effects		0,0063 mg/m ³	Inhalation	
Silver nitrate	Consumers / Long-term systemic effects		0,02mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
Silver nitrate	Fresh water: 0,00004 mg/l	
Silver nitrate	Marine water: 0,00086 mg/l	Assessment factor:

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		10
Silver nitrate	Sewage treatment plant: 0,025 mg/l	
Silver nitrate	Fresh water sediment: 438,13 mg/kg dw	Assessment factor: 10
Silver nitrate	Marine sediment: 438,13 mg/kg dw	Assessment factor: 10
Silver nitrate	Soil: 1,41 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.

Engineering measures

Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection:

In the case of dust or aerosol formation use respirator with an approved filter.

Hand protection:

Glove material: Natural Latex

Break through time: > 480 min

Glove thickness: 0,6 mm

Lapren®706

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

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Eye protection:

Safety goggles

Skin and body protection:

Wear suitable protective equipment.

Lab coat

Protective suit

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	: solid
Colour	: colourless
Odour	: odourless
Melting point/range	: 212 °C
Boiling point/boiling range	: Not applicable Decomposes on heating.
Flammability	: The product is not flammable.
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 444 °C No decomposition if used as directed.
pH	: No data available

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Auto-ignition temperature : not auto-flammable

Viscosity, kinematic : No data available

Water solubility : 2.192,0 g/l
at 20 °C

Partition coefficient: n-
octanol/water : No data available

Vapour pressure : No data available

Density : ca. 4,350 g/cm³
at 20 °C

Bulk density : ca. 2.400 kg/m³

Relative vapour density : No data available

9.2 Other Information

Oxidizing properties : The substance or mixture is classified as oxidizing with the category 2.

Corrosive to metals : Corrosive to metals

Evaporation rate : No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored normally.

10.2. Chemical stability

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444 °C

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

With most metals.

10.4. Conditions to avoid

Protect from heat/overheating.

Protect from contamination.

Exposure to light.

10.5. Incompatible materials

Reactions with combustible substances.

Reactions with metals in powder form.

As oxidising agent, attacks organic substances such as wood, paper, fats.

Corrosive in contact with metals

10.6. Hazardous decomposition products

nitrogen oxides

Toxic metal compounds

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

LD50

Species: Rat

Sex: male and female

Value: > 5.110 mg/kg

Method: OECD Test Guideline 401

Test substance: REACH dossier "read-across"

Acute dermal toxicity:

LD50

Species: Rat

Sex: male and female

Value: > 2.000 mg/kg

Method: OECD Test Guideline 402

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Test substance: REACH dossier "read-across"

Acute inhalation toxicity:
No data available

Skin irritation:
Species: reconstructed human epidermis (RhE)
Result: Causes burns.
Method: OECD Test Guideline 431

Eye irritation:
Species: Rabbit
Result: Risk of serious damage to eyes.
Method: No information available.

Respiratory or skin sensitisation:
No data available

Germ cell mutagenicity:
Cell type: mouse lymphoma cells
Metabolic activation: with metabolic activation
Result: negative
Method: OECD Test Guideline 476
Test substance: REACH dossier "read-across"

Cell type: mouse lymphoma cells
Metabolic activation: without metabolic activation
Result: positive
Method: OECD Test Guideline 476
Test substance: REACH dossier "read-across"

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:

LC50

semi-static test

Species: Pimephales promelas (fathead minnow)

Value: 1.2 µg/l

Exposure time: 96 h

EC10

flow-through test

Species: Oncorhynchus mykiss (rainbow trout)

Value: 0.17 µg/l

Exposure time: 196 d

Toxicity to aquatic plants:

EC10

Growth rate

flow-through test

Species: Chlamydomonas reinhardtii

Value: 0.54 µg/l

Exposure time: 24 h

Toxicity to Microorganisms:

NOEC

static test

Species: Bacteria

Value: 0,025 mg/l

Exposure time: 13,3 min

Toxicity to aquatic invertebrates:

LC50

semi-static test

Species: Daphnia magna (Water flea)

Value: 0.22 µg/l

Exposure time: 48 h

Chronic toxicity to aquatic invertebrates:

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EC10

semi-static test

Species: Ceriodaphnia dubia (water flea)

Value: 6.48 µg/l

Exposure time: 7 d

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. Endocrine disrupting properties

No data available

12.7. Other adverse effects

Do not flush into surface water or sanitary sewer system.

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

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

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For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:1493

IMDG:1493

IATA:1493

14.2 UN proper shipping name

ADR/RID:SILVER NITRATE

IMDG:SILVER NITRATE

IATA:Silver nitrate

14.3 Transport hazard class(es)

ADR/RID: 5.1

IMDG: 5.1

IATA: 5.1

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

No data available

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
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

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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
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

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Gifinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

Other inventory information

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US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
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)
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

Taiwan Chemical Substance Inventory (TCSI)
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

Silver nitrate	:	H272	May intensify fire; oxidizer.
		H290	May be corrosive to metals.
		H314	Causes severe skin burns and eye damage.
		H400	Very toxic to aquatic life.

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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 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.

This information should not constitute a guarantee for any specific product properties.
