



Silver Nitrate	Pricing >
Silver Nitrate on Silica Gel	Pricing >
Silver Nitrate Solution	Pricing >

Linear Formula	AgNO ₃
Pubchem CID	24470
MDL Number	MFCD00003414
EC No.	231-853-9
IUPAC Name	silver nitrate
Beilstein/Reaxys No.	N/A
SMILES	[N+](=O)([O-])[O-].[Ag+]
Inchl Identifier	InChI=1S/Ag.NO3/c;2-1(3)4/q+1;-1
Inchl Key	InChI=1S/Ag.NO3/c;2-1(3)4/q+1;-1

Signal Word	Danger
Hazard Statements	H272-H314-H410
Hazard Codes	C,N
Risk Codes	34-50/53
Safety Statements	26-45-60-61
RTECS Number	VW4725000
Transport Information	UN 1493 5.1/PG 2
WGK Germany	3
GHS Pictograms	<p>GHS03 Oxidizer</p>  <p>GHS05 Corrosive</p> 

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SAFETY DATA SHEET

Date Accessed: 04/18/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #7761-88-8

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
GHS03 Flame over circle
Ox. Sol. 2
H272 May intensify fire; oxidizer.
GHS05 Corrosion
Met. Corr. 1
H290 May be corrosive to metals.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Hazards not otherwise classified
No data available
GHS label elements
GHS label elements, including precautionary statements
Hazard pictograms



GHS03 GHS05
Signal word: Danger
Hazard statements
H272 May intensify fire; oxidizer.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P221

Take any precaution to avoid mixing with combustibles.

P210

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

C - Oxidizing materials

D2A - Very toxic material causing other toxic effects

E - Corrosive material

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 3

Flammability = 3

Physical Hazard = 3

Other hazards

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

CAS No. / Substance Name:

7761-88-8 Silver nitrate

Identification number(s):

EC number: 231-853-9

Index number: 047-001-00-2

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.

If inhaled:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Call a doctor immediately.

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Drink copious amounts of water and provide fresh air.

Immediately call a doctor.

Do not initiate vomiting.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

Causes serious eye damage.

Danger

Silver nitrate is caustic and irritating to the skin, eyes and mucous membranes, producing a persistent black stain, with possible tissue destruction. Absorption over long period may cause "Argyria", a blue/grey discolouration of various tissues. Industrial argyria may be local, involving the formation of blue/grey particles in the skin and the conjunctivae, or generalised, which appears early on the face, spreading to the hands. This is only normally manifested after many years of gross over-exposure. Ingestion will cause violent abdominal pain and vomiting.

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray.

Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents

Halocarbon extinguisher

Special hazards arising from the substance or mixture

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause

ignition.

If this product is involved in a fire, the following can be released:

Nitrogen oxides (NO_x)

Silver oxides

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow to enter sewers/ surface or groundwater.

Methods and materials for containment and cleanup:

Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards:

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from combustible material.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling

Thoroughly remove all dust particles.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep respiratory protective device available.

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.
Information about storage in one common storage facility:
Store away from flammable substances.
Store away from reducing agents.
Store in the dark.
Do not store with organic materials.
Store away from metal powders.
Store away from alcohols.
Store away from ammonia
Store away from metals.
Further information about storage conditions:
Store in the dark.
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Protect from exposure to light.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information: No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Use suitable respirator when high concentrations are present.
Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protection of hands:
Impervious gloves
Inspect gloves prior to use.
Suitability of gloves should be determined both by

material and quality, the latter of which may vary by manufacturer.

Material of gloves

Nitrile rubber, NBR

Penetration time of glove material (in minutes)

480

Glove thickness

0.11 mm

Eye protection:

Tightly sealed goggles

Full face protection

Body protection:

Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Crystalline

Color: White

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 212 °C (414 °F)

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flash point: N/A

Flammability (solid, gas): Contact with combustible material may cause fire.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20 °C (68 °F): 4.352 g/cm³ (36.317 lbs/gal)

Relative density: No data available.

Vapor density: N/A

Evaporation rate: N/A

Solubility in / Miscibility with Water at 0 °C (32 °F):

1220 g/l

Alcohols: Slightly soluble

Ketones: Slightly soluble

Partition coefficient (n-octanol/water): 5 log POW

Viscosity:

Dynamic: N/A

Kinematic: N/A

Other information

No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

May intensify fire; oxidizer.

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

To avoid thermal decomposition do not overheat.

Possibility of hazardous reactions

Reacts with organic substances

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Reacts with reducing agents

Reacts with flammable substances

Conditions to avoid

No data available

Incompatible materials:

Reducing agents

Flammable substances

Metals

Ammonia

Alcohols

Organic materials

Metal powders

Light

Hazardous decomposition products:

Silver oxides

Nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral

LD50

1173 mg/kg (rat)

Irritation of eyes severe 1 mg (rabbit)

Skin irritation or corrosion: Causes severe skin burns.

Eye irritation or corrosion: Causes serious eye damage.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity:

The Registry of Toxic Effects of Chemical Substances

(RTECS) contains mutation data for this substance.
Carcinogenicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Ecotoxicological effects:
Remark:
Very toxic for aquatic organisms
Additional ecological information:
Do not allow material to be released to the environment without official permits.
Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult official regulations to ensure proper disposal.
Waste disposal key number according to the
European Waste Catalogue:
Contaminated salts and their solutions:
06 03 99 Wastes n. o. s.
Uncleaned packagings:
Recommendation:
Disposal must be made according to official
regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN1479
UN proper shipping name
DOT
Oxidizing solid, n.o.s. (Silver nitrate, ACS)
IMDG, IATA
OXIDIZING SOLID, N.O.S. (Silver nitrate, ACS)
Transport hazard class(es)
DOT
Class
5.1 Oxidising substances.
Label
5.1
Class
5.1 (O2) Oxidizing substances
Label
5.1
IMDG, IATA
Class
5.1 Oxidising substances.
Label
5.1
Packing group
DOT, IMDG, IATA
I
Environmental hazards:
Environmentally hazardous substance, solid
Special precautions for user
Warning: Oxidizing substances
EMS Number:

F-A,S-Q

Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code

N/A

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN1479, Oxidizing solid, n.o.s. (Silver nitrate, ACS),
5.1, I

SECTION 15. REGULATORY INFORMATION

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

GHS GHS label elements, including precautionary
statements

Hazard pictograms

GHS03

GHS05

Signal word: Danger

Hazard statements

H272 May intensify fire; oxidizer.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P221

Take any precaution to avoid mixing with
combustibles.

P210

Keep away from heat/sparks/open flames/hot
surfaces. No smoking.

P303+P361+P353 If on skin (or hair): Take off
immediately all contaminated clothing. Rinse skin with
water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with
water for several minutes. Remove contact lenses, if
present and easy to do. Continue rinsing.

P405

Store locked up.

P501

Dispose of contents/container in accordance with
local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S.

Environmental Protection Agency Toxic Substances
Control Act Chemical substance Inventory.

All components of this product are listed on the
Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

7761-88-8 Silver nitrate
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals.
Other regulations, limitations and prohibitive
regulations
REACH - Pre-registered substances
Substance is not listed.
Substance of Very High Concern (SVHC) according to
the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.
The conditions of restrictions according to Article 67
and Annex XVII of the Regulation (EC) No 1907/2006
(REACH) for the manufacturing, placing on the market
and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring
Authorisation for use)
Substance is not listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried
out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
