

Silver Nitrate 0.282 Normal Solution

Safety Data Sheet
Revision date: 05/14/2013

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier

Product form: Mixture

Product name: Silver Nitrate 0.282 Normal Solution

Product code: 265-06

Intended Use Of The Product

Use of the substance/preparation: Laboratory Reagent

Name, Address, And Telephone Of The Responsible Party

OFI Testing Equipment, Inc.
11302 Steeplecrest Dr.
Houston, TX 77065 USA
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www.ofite.com

Emergency Telephone Number

Emergency number : INFOTRAC USA and Canada:1-800-535-5053 / INFOTRAC Outside USA and Canada: 1-352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

Classification Of The Substance Or Mixture

Classification (GHS-US)

Skin Irrit. 2 H315

Eye Dam. 1 H318

Repr. 2 H361

Label Elements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H315 - Causes skin irritation
H318 - Causes serious eye damage
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash hands and forearms thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: wash with plenty of soap and water
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
P310 - Immediately call a POISON CENTER or doctor
P321 - Specific treatment (see section 4)

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P332+P313 - If skin irritation occurs: get medical advice/attention

P362 - Take off contaminated clothing

P405 - Store locked up

P501 - Dispose of contents/container according to all local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other hazards not contributing to the classification:

Hazardous to the aquatic environment - Acute Hazard Category 1.

Very toxic to aquatic life.



Unknown acute toxicity (GHS US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Water	(CAS No.) 7732-18-5	95.2	Not classified
Silver nitrate	(CAS No.) 7761-88-8	4.8	Ox. Sol. 2, H272 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description Of First Aid Measures

General: Never give anything by mouth to an unconscious person. IF exposed or concerned: get medical advice/attention.

Inhalation: When symptoms occur: go into open air and ventilate suspected area.

Skin Contact: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms And Effects Both Acute and Delayed

General: Suspected of damaging fertility or the unborn child. Causes severe skin burns and eye damage.

Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Skin Contact: Causes skin irritation.

Eye Contact: Causes serious eye damage.

Ingestion: Abdominal pain. Vomiting. Toxic if swallowed.

Chronic symptoms: Suspected of damaging fertility. Suspected of damaging the unborn child.

Indication Of Any Immediate Medical Attention And Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media: Not flammable, Use extinguishing media appropriate for surrounding fire

Unsuitable extinguishing media: None known.

Special Hazards Arising From The Substance Or Mixture

Fire hazard: Not flammable

Explosion hazard: Product is not explosive

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Reactivity: Hazardous reactions will not occur under normal conditions.

Advice For Firefighters

Precautionary measures fire: Not available

Firefighting instructions: Use water spray or fog for cooling exposed containers.,Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Nitrogen oxides.

Reference To Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment And Emergency Procedures

General measures: Avoid all contact with skin, eyes, or clothing. Do not allow product to spread into the environment.

For Non-Emergency Personnel

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods And Material For Containment And Cleaning Up

For containment: Absorb and/or contain spill with inert material, then place in suitable container.

Methods for cleaning up: Clear up spills immediately and dispose of waste safely.

Reference To Other Sections

See Heading 8, Exposure controls and personal protection.

SECTION 7: HANDLING AND STORAGE

Precautions For Safe Handling

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

Conditions For Safe Storage, Including Any Incompatibilities

Storage conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store locked up

Specific End Use(s)

Laboratory Reagent

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

No Occupational Exposure Limits have been established for this product or its components.

Exposure Controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment: Safety glasses. Face shield. Gloves. Protective clothing.



Materials for protective clothing: Chemically resistant materials and fabrics.

Hand protection: Wear chemically resistant protective gloves.

Eye protection: Wear safety glasses with side shields.

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Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Not available

Other information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information On Basic Physical And Chemical Properties

Physical state	: Liquid
Appearance	: Clear, Colorless
Odor	: Odorless
Odor threshold	: Not available
pH	: Not available
Relative evaporation rate (butyl acetate=1)	: Not available
Melting point	: > 2 °C
Freezing point	: Not available
Boiling point	: 100 °C
Flash point	: Not flammable
Auto-ignition temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower flammable limit	: Not available
Upper flammable limit	: Not available
Vapor pressure	: Not available
Relative vapor density at 20 °C	: Not available
Relative density	: Not available
Specific gravity	: 1
Solubility	: Soluble in water.
Log Pow	: Not available
Log Kow	: Not available
Viscosity, kinematic	: Not available
Viscosity, dynamic	: Not available
Explosion data - sensitivity to mechanical impact	: Not available
Explosion data - sensitivity to static discharge	: Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity Hazardous reactions will not occur under normal conditions.

Chemical Stability Stable at standard temperature and pressure.

Possibility Of Hazardous Reactions Hazardous polymerization will not occur.

Conditions To Avoid Direct sunlight. Extremely high or low temperatures.

Incompatible Materials Strong acids. Strong bases. Strong oxidizers. Alcohols. Ammonia. Reducing agents. Magnesium.

Hazardous Decomposition Products Carbon oxides (CO, CO₂). Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information On Toxicological Effects - Product

Acute toxicity : Not classified

LD50 and LC50 Data: Not available

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitization: Not classified

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Germ cell mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific target organ toxicity (repeated exposure): Not classified

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure): Not classified

Aspiration hazard: Not classified

Symptoms/injuries after inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/injuries after skin contact: Causes skin irritation.

Symptoms/injuries after eye contact: Causes serious eye damage.

Symptoms/injuries after ingestion: Abdominal pain. Vomiting. Toxic if swallowed.

Chronic symptoms: Suspected of damaging fertility. Suspected of damaging the unborn child.

Information On Toxicological Effects - Ingredient(s)

LD50 and LC50 Data

Silver nitrate (7761-88-8)	
LD50 oral rat	1173 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - general: Very toxic to aquatic life.

Silver nitrate (7761-88-8)	
LC50 fish 1	0.00512 - 0.00787 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
EC50 Daphnia 1	0.0006 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	0.009 - 0.02 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 2	0.0008 - 0.001 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])

Persistence And Degradability

Silver Nitrate 0.282 Normal Solution	
Persistence and degradability	May cause long-term adverse effects in the environment.

Bioaccumulative Potential

Silver Nitrate 0.282 Normal Solution	
Bioaccumulative potential	Not established.

Mobility In Soil Not available

Other Adverse Effects

Other information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Ecology - waste materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

In accordance with ICAO/IATA/DOT/TDG

UN Number

UN-No.(DOT): 3082

DOT NA no.: UN3082

UN Proper Shipping Name

Department of Transportation (DOT) Hazard Classes : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT) : 9 - Miscellaneous dangerous compounds

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DOT Symbols

Packing group (DOT)

DOT Special Provisions (49 CFR 172.102)

- : G - Identifies PSN requiring a technical name
- : III - Minor Danger
- : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.
146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.
335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s." UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
- T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
- TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: t_r is the maximum mean bulk temperature during transport, and t_f is the temperature in degrees celsius of the liquid during filling.
- TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx)

DOT Packaging Non Bulk (49 CFR 173.xxx)

DOT Packaging Bulk (49 CFR 173.xxx)

- : 155
- : 203
- : 241

Transport by sea

DOT Vessel Stowage Location

- : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

- : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

- : No limit

SECTION 15: REGULATORY INFORMATION

US Federal regulations

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Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Silver nitrate (7761-88-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State regulations

Silver nitrate (7761-88-8)

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Polluting Materials List
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Canadian regulations

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WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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Silver nitrate (7761-88-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Listed on the Canadian Ingredient Disclosure List

WHMIS Classification	Class C - Oxidizing Material Class E - Corrosive Material
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Indication of changes	: 05/14/2013
Other information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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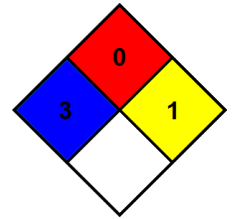
GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Ox. Sol. 2	Oxidizing solids Category 2
Repr. 2	Reproductive toxicity Category 2
Skin Corr. 1B	skin corrosion/irritation Category 1B
Skin Irrit. 2	skin corrosion/irritation Category 2
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard

Physical : 1 Slight Hazard

Party Responsible For The Preparation Of This Document:

OFI Testing Equipment

Phone Number: 832-320-7300

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS