


SECTION 1: Identification

Product identifier	
Product name	Silver Nitrate Reagent
Product number	R-0706; R-0706-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Oxidizing liquids	Category 2
Health hazards	Eye damage/irritation	Category 2A
	Skin corrosion/irritation	Category 2
Environmental hazards	No data available	
Label elements		
Hazard pictograms		
Signal word	Danger	
Hazard statements	May intensify fire; oxidizer. Causes serious eye irritation. Causes skin irritation.	
Precautionary statements		
Prevention	Keep/store away from clothing, combustible material, and organics. Take any precautions to avoid mixing with combustibles and organics. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Wash skin thoroughly after handling.	
Response	IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. Take off all contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: Get medical advice/attention. IN CASE OF FIRE: Use carbon dioxide, dry chemical powder, foam, or water fog to extinguish.	
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store locked up.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazards not otherwise classified	No data available	

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	%
Water	Dihydrogen oxide	7732-18-5	95–99
Silver nitrate	Not available	7761-88-8	0.1–5

SECTION 4: First-aid measures

If inhaled	Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.
-------------------	---

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice.

If swallowed

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use carbon dioxides or other smother agents, as they may be ineffective in fires involving oxidizers.

Specific hazards arising from the substance or mixture

Fire hazard May intensify fire; oxidizer.

Explosion hazard Not explosive

Reactivity Hazardous reactions will not occur under normal conditions.

Hazardous combustion products Nitrogen oxides, oxygen, silver metallic, and silver oxides

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.

Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.

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

Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Ventilate the contaminated area. Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water to remove residual contamination. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Precautions for safe handling**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure.

Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store locked up. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits****ACGIH Threshold Limit Values**

Components	Type	Value	Form
Silver nitrate (CAS 7761-88-8)	TWA	0.01 mg/m ³	as Ag

NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Silver nitrate (CAS 7761-88-8)	TWA	0.01 mg/m ³	Dust as Ag

OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Silver nitrate (CAS 7761-88-8)	PEL	0.01 mg/m ³	as Ag

Biological limit values No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection Wear appropriate chemical safety goggles if contact is likely to occur.

Skin protection Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.

Body protection Wear appropriate protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Liquid
Form	Liquid
Color	Clear, colorless
Odor	Odorless
Odor threshold	No data available
pH	4.4
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	212°F (100°C)
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapor pressure	17 mm Hg
Relative vapor density	0.6
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Combustible material and organics

SECTION 11: Toxicological information

Information on toxicological effects

Inhalation	May cause irritation to the respiratory system
Skin contact	Causes skin irritation
Eye contact	Causes serious eye irritation
Ingestion	May cause irritation, nausea, vomiting, and diarrhea

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.

Components	Species	Test Results
Silver nitrate (CAS 7761-88-8)		
Acute		
<i>Oral</i>		
LD ₅₀	Rat	1173 mg/kg
Respiratory or skin sensitization	No data available	
Germ cell mutagenicity	No data available	
Carcinogenicity	No data available	
Reproductive toxicity	No data available	
Specific target organ toxicity (single exposure)	No data available	
Specific target organ toxicity (repeated exposure)	No data available	
Aspiration hazard	No data available	

SECTION 12: Ecological information

This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

UN number	UN3139
UN proper shipping name	Oxidizing liquid, N.O.S. (Silver nitrate)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	Not listed
Label(s)	5.1
Packing group	II
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.

Special provisions	62, 127, A2, IB2
Packaging exceptions	152
Packaging, non-bulk	202
Packaging, bulk	242

IATA

UN number	UN3139
UN proper shipping name	Oxidizing liquid, N.O.S. (Silver nitrate)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	Not listed
Packing group	II
Environmental hazards	Not listed
ERG code	5L
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed
Cargo aircraft only	Allowed

IMDG

UN number	UN3139
UN proper shipping name	Oxidizing liquid, N.O.S. (Silver nitrate)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	Not listed
Packing group	II
Environmental hazards	
Marine pollutant	Not listed
EmS	F-A, S-Q
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

DOT



IATA; IMDG



SECTION 15: Regulatory information

U.S. federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance (40 CFR 302.4)

Silver nitrate (CAS 7761-88-8)

U.S. state regulations

Massachusetts Right-to-Know Act

Silver nitrate (CAS 7761-88-8)

New Jersey Worker and Community Right-to-Know Act

Silver nitrate (CAS 7761-88-8)

Pennsylvania Worker and Community Right-to-Know Act

Silver nitrate (CAS 7761-88-8)

Rhode Island Right-to-Know Act

Silver nitrate (CAS 7761-88-8)

SECTION 16: Other information

NFPA Rating

Health hazard	1
Fire hazard	0
Reactivity	0
Specific	OX

Disclaimer

The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

License granted to make unlimited paper copies for internal use only. This Safety Data Sheet may not be altered in any way without the expressed knowledge and permission of Taylor Technologies, Inc. The information contained in this sheet is based on lab experience and the most current data available.

Issue date:

May 2015

Last revisions

May 2016