

# Taylor R-0718 Silver Nitrate N/10 (Taylor Technologies Silver Nitrate N/10)

# **Horizon Chemical Co Inc**

Chemwatch Hazard Alert Code: 4

Chemwatch: 3445697 Version No: 4.1 Issue Date: 11/17/2021 Print Date: 05/23/2025

S.GHS.USA.EN

Safety Data Sheet according to OSHA HazCom Standard (2024) requirements

#### **SECTION 1 Identification**

#### **Product Identifier**

Product name	Taylor R-0718 Silver Nitrate N/10 (Taylor Technologies Silver Nitrate N/10)
Chemical Name	Not Applicable
Synonyms	Product number R-0698
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s. (contains silver nitrate)
Chemical formula	Not Applicable
Other means of identification	Not Available

#### Recommended use of the chemical and restrictions on use

# Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Horizon Chemical Co Inc	
Address	44 Round Lake Rd W Arden Hills, MN 55112 United States	
Telephone	651-917-3075	
Fax	651-917-3087	
Website	www.horizonpoolsupply.com	
Email	info@horizonpoolsupply.com	

#### **Emergency phone number**

Association / Organisatio	n Infotrack	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephon number(s	800-535-5053	+1 855-237-5573 (ID#: 3445697)
Other emergence telephone number(s	855-237-5573	+61 3 9573 3188

# SECTION 2 Hazard(s) identification

# Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

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Classification

Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1

#### Label elements

Hazard pictogram(s)



Signal word

Danger

#### Hazard statement(s)

H314

Causes severe skin burns and eye damage.

# Hazard(s) not otherwise classified

Not Applicable

#### Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.	
P264	Wash all exposed external body areas thoroughly after handling.	
P280	P280 Wear protective gloves, protective clothing, eye protection and face protection.	

#### Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.	
P305+P351+P338	F IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P310	Immediately call a POISON CENTER/doctor/physician/first aider.	
P363	Wash contaminated clothing before reuse.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	

#### Precautionary statement(s) Storage

P405

Store locked up.

#### Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

#### **SECTION 3 Composition / information on ingredients**

#### **Substances**

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name
7761-88-8	1-5	silver nitrate
7732-18-5	>80	water

# **SECTION 4 First-aid measures**

#### Description of first aid measures

If this product comes in contact with the eyes:

#### ▶ Immediately hold eyelids apart and flush the eye continuously with running water.

- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### Skin Contact

**Eye Contact** 

If skin or hair contact occurs:

- ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.

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	► Transport to hospital, or doctor.
Inhalation	<ul> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>Transport to hospital, or doctor, without delay.</li> <li>Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> <li>This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)</li> </ul>
Ingestion	<ul> <li>For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>Urgent hospital treatment is likely to be needed.</li> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Transport to hospital or doctor without delay.</li> </ul>

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

See Section 11

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

Treat symptomatically.

53ag

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- P Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

#### INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- ▶ Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- ▶ Some authors suggest the use of lavage within 1 hour of ingestion.

#### SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- ▶ Deep second-degree burns may benefit from topical silver sulfadiazine.

#### EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjuctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT use neutralising agents or any other additives.** Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

# **SECTION 5 Fire-fighting measures**

# Extinguishing media

- Water spray or fog.
- ▶ Foam.
- Dry chemical powder.
- ▶ BCF (where regulations permit).
- Carbon dioxide.

# Special hazards arising from the substrate or mixture

Fire Incompatibility

None known.

#### Special protective equipment and precautions for fire-fighters

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Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear full body protective clothing with breathing apparatus.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> <li>Do not approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Non combustible.</li> <li>Not considered to be a significant fire risk.</li> <li>Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>May emit corrosive, poisonous fumes. May emit acrid smoke.</li> <li>Decomposition may produce toxic fumes of: nitrogen oxides (NOx)</li> </ul>

#### **SECTION 6 Accidental release measures**

#### Personal precautions, protective equipment and emergency procedures

See section 8

# **Environmental precautions**

See section 12

# Methods and material for containment and cleaning up

Minor Spills	<ul> <li>Environmental hazard - contain spillage.</li> <li>Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>Check regularly for spills and leaks.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>Wipe up.</li> <li>Place in a suitable, labelled container for waste disposal.</li> </ul>
Major Spills	Environmental hazard - contain spillage.  Clear area of personnel and move upwind.  Alert Fire Brigade and tell them location and nature of hazard.  Wear full body protective clothing with breathing apparatus.  Prevent, by any means available, spillage from entering drains or water course.  Consider evacuation (or protect in place).  Stop leak if safe to do so.  Contain spill with sand, earth or vermiculite.  Collect recoverable product into labelled containers for recycling.  Neutralise/decontaminate residue (see Section 13 for specific agent).  Collect solid residues and seal in labelled drums for disposal.  Wash area and prevent runoff into drains.  After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.  If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

#### **SECTION 7 Handling and storage**

# Precautions for safe handling

#### Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. ▶ WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. ► When handling, **DO NOT** eat, drink or smoke. Safe handling Keep containers securely sealed when not in use. Avoid physical damage to containers.

▶ DO NOT allow clothing wet with material to stay in contact with skin

Always wash hands with soap and water after handling.

Avoid all personal contact, including inhalation.

- ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- ▶ Use good occupational work practice.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

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#### Store in the dark.

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

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

Other information

Suitable container

Storage incompatibility

- DO NOT use aluminium or galvanised containers
- Check regularly for spills and leaks
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

#### For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- Removable head packaging;
- · Cans with friction closures and
- low pressure tubes and cartridges

may be used.

Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

- Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0.
- Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts neutralisation can generate dangerously large amounts of heat in small spaces.
- ▶ The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat.
- ▶ The addition of water to inorganic acids often generates sufficient heat in the small region of mixing to cause some of the water to boil explosively. The resulting "bumping" can spatter the acid.
- Inorganic acids react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas.
- Inorganic acids can initiate the polymerisation of certain classes of organic compounds.
- Inorganic acids react with cyanide compounds to release gaseous hydrogen cyanide.
- Inorganic acids generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and even carbonates.
- Acids often catalyse (increase the rate of) chemical reactions.
- ▶ WARNING: Avoid or control reaction with peroxides. All transition metal peroxides should be considered as potentially explosive. For example transition metal complexes of alkyl hydroperoxides may decompose explosively.
- The pi-complexes formed between chromium(0), vanadium(0) and other transition metals (haloarene-metal complexes) and mono-or poly-fluorobenzene show extreme sensitivity to heat and are explosive.
- Avoid reaction with borohydrides or cyanoborohydrides
- Silver or silver salts readily form explosive silver fulminate in the presence of both nitric acid and ethanol. The resulting fulminate is much more sensitive and a more powerful detonator than mercuric fulminate.
- · Silver and its compounds and salts may also form explosive compounds in the presence of acetylene and nitromethane.
- · Silver is incompatible with oxalic or tartaric acids, since the silver salts decompose on heating. Silver oxalate explodes at 140 deg C, and silver tartrate loses carbon dioxide

Silver solutions used in photography can become explosive under a variety of conditions. Ammoniacal silver nitrate solutions, on storage, heating or evaporation eventually deposit silver nitride ('fulminating silver ). Silver nitrate and ethanol may give silver fulminate, and in contact with azides or hydrazine, silver azide. These are all dangerously sensitive explosives and detonators. Addition of ammonia solution to silver containing solutions does not directly produce explosive precipitates, but these are formed at pH values above 12.9, produced by addition of alkali, or by dissolution of silver oxide in ammonia Silver nitrate:

- is a powerful oxidiser
- forms friction and shock-sensitive compounds with many materials including acetylene, anhydrous ammonia (produces compounds that are explosive when dry), 1,3-butadiyne, buten-3-yne, calcium carbide, dicopper acetylide
- ▶ in contact with hydrogen peroxide cause violent decomposition to oxygen gas
- reacts violently with chlorine trifluoride, metal powders, nitrous acid, phosphonium iodide, red or yellow phosphorus, sulfur
- is incompatible with acetylides, acrylonitrile, alcohols, alkalis, ammonium hydroxide, arsenic, arsenites, bromides, carbonates, carbon, charcoal, chlorides, chlorosulfonic acid, cocaine chloride, ethanol, hypophosphites, iodides, iodoform, magnesium, methyl acetylene, phosphates, phosphine, salts of antimony or iron, sodium salicylate, tannic acid, tartrates,
- attacks chemically active metals and some plastics, rubber and coatings

# **SECTION 8 Exposure controls / personal protection**

# **Control parameters**

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#### Occupational Exposure Limits (OEL)

#### **INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	silver nitrate	Silver, metal and soluble compounds (as Ag)	0.01 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	silver nitrate	Silver (metal dust and soluble compounds, as Ag)	0.01 mg/m3	Not Available	Not Available	Not Available

#### **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
silver nitrate	0.047 mg/m3	0.9 mg/m3	5.4 mg/m3

Ingredient	Original IDLH	Revised IDLH
silver nitrate	10 mg/m3	Not Available
water	Not Available	Not Available

#### **Exposure controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Appropriate engineering	
controlo	

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50- 100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100- 200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200- 500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Individual protection measures, such as personal protective equipment









## Eye and face protection

 Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.

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# · Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent] Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. • Alternatively a gas mask may replace splash goggles and face shields.

 Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

#### Skin protection

#### See Hand protection below

- ▶ Elbow length PVC gloves
- When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- · frequency and duration of contact,
- · chemical resistance of glove material,
- · glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- · When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161,10.1 or national equivalent) is recommended.

#### Hands/feet protection

- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- · Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- · Excellent when breakthrough time > 480 min
- · Good when breakthrough time > 20 min
- · Fair when breakthrough time < 20 min
- · Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- · Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

#### **Body protection**

#### See Other protection below

#### Other protection

- Overalls.
- PVC Apron.
- ▶ PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

#### Recommended material(s)

# **GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:

#### "Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computer-generated selection:

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Material	СРІ
BUTYL	Α
NEOPRENE	Α
VITON	Α

#### Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum	Half-Face	Full-Face	Powered Air
Protection Factor	Respirator	Respirator	Respirator
up to 10 x ES	-AUS P2	-	-PAPR-AUS / Class 1 P2

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NATURAL RUBBER	С
PVA	С

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

# up to 50 x ES -AUS / Class 1 P2 up to 100 x ES -2 P2 -PAPR-2 P2 ^

#### ^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

#### **Ansell Glove Selection**

Glove — In order of recommendation
AlphaTec 02-100
AlphaTec® Solvex® 37-185
AlphaTec® 38-612
AlphaTec® 58-008
AlphaTec® 58-530B
AlphaTec® 58-530W
AlphaTec® 58-735
AlphaTec® 79-700
AlphaTec® Solvex® 37-675
DermaShield™ 73-711
1

The suggested gloves for use should be confirmed with the glove supplier.

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

#### Information on basic physical and chemical properties

Appearance	Clear colourless liquid with no odour; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n- octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	4.6	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available

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Particle Size

Not Available

# **SECTION 10 Stability and reactivity**

Reactivity	See section 7
Chemical stability	<ul> <li>Contact with alkaline material liberates heat</li> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

# **SECTION 11 Toxicological information**

Information	on	toxicological effects

Information on toxicologic	al effects
a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	Based on available data, the classification criteria are not met.
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	Based on available data, the classification criteria are not met.
Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.  Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.  Not normally a hazard due to non-volatile nature of product Causes severe burns.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.  Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.  The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.
Skin Contact	Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.  Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.  The material can produce severe chemical burns following direct contact with the skin.
Еуе	Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.  If applied to the eyes, this material causes severe eye damage.  Irritation of the eyes may produce a heavy secretion of tears (lachrymation).  The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.
Chronic	Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.  Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.  Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.  Chronic exposure to silver salts may cause a permanent ashen grey discoloration to the skin, conjunctiva and internal organs. A mild chronic bronchitis can occur.

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Taylor R-0718 Silver Nitrate	TOXICITY	IRRITATION	
N/10 (Taylor Technologies Silver Nitrate N/10)	Oral (Rat) LD50: >2000 mg/kg* <sup>[2]</sup>	Not Available	
	TOXICITY	IRRITATION	
	Oral (Rat) LD50: 50 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 10mg - Moderate	
		Eye (Rodent - rabbit): 1mg - Severe	
silver nitrate		Eye: adverse effect observed (irritating) <sup>[1]</sup>	
		Skin (Human - man): 1%	
		Skin: adverse effect observed (corrosive) <sup>[1]</sup>	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
	TOXICITY	IRRITATION	
water	Oral (Rat) LD50: >90000 mg/kg <sup>[2]</sup>	Not Available	
Legend:	Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS.     Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances		
Reproductive effector in rats Human lymphocyte mutagen Equivocal tumorigen by RTECS criteria The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.			
WATER	No significant acute toxicological data identified in literature search.		

Legend:

🗙 – Data either not available or does not fill the criteria for classification

Data available to make classification

Carcinogenicity

Reproductivity

**Aspiration Hazard** 

STOT - Single Exposure

STOT - Repeated Exposure

# **SECTION 12 Ecological information**

**Acute Toxicity** 

Serious Eye

sensitisation Mutagenicity

Damage/Irritation
Respiratory or Skin

Skin Irritation/Corrosion

#### Toxicity

Taylor R-0718 Silver Nitrate N/10 (Taylor Technologies Silver Nitrate N/10)	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available Not Available		Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	792h	Fish	<54-310	7
silver nitrate	EC50	48h	Crustacea	<0.001mg/L	2
	NOEC(ECx)	12960h	Fish	<0.001mg/l	1
	EC50	72h	Algae or other aquatic plants	<0.001mg/L	2
	EC50	96h	Algae or other aquatic plants	0.01mg/L	2
	LC50	96h	Fish	<0.001mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Source
water	Not Available	Not Available	Not Available	Not Available	Not Available

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Leaend:

Extracted from 1, IUCLID Toxicity Data 2, Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) -Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Toxic to flora.

Toxic to soil organisms.

#### Ecotoxicity:

The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5

For silver and its compounds:

Environmental Fate: Silver is a rare but naturally occurring metal, often found deposited as a mineral ore in association with other elements. Emissions from smelting operations, manufacture and disposal of certain photographic and electrical supplies, coal combustion, and cloud seeding are some of the anthropogenic sources of silver in the biosphere. Silver is released into the atmosphere, water, and land by natural and anthropogenic sources, through long-range transport of fine particles in the atmosphere, wet and dry deposition, and sorption to soils and sediments. Accumulation of silver by terrestrial plants from soils is generally low, even in soils that contain high levels of silver. While the ability to accumulate dissolved silver varies widely between species, with bioconcentrations tending to be higher in marine organisms than freshwater organisms, studies with the less toxic silver compounds, such as silver sulfide and silver chloride, reveal that accumulation of silver does not necessarily lead to adverse effects. At concentrations normally encountered in the environment, silver is unlikely to bioaccumullate in aquatic systems. Elevated silver concentrations in organisms occur in the vicinities of sewage outfalls, electroplating plants, mine waste sites, and silver iodideseeded areas.

Ecotoxicity: In general, silver ion was less toxic to freshwater aquatic organisms when dissolved in low concentrations with increasing water pH, hardness, sulfides, and dissolved organic particles; under static test conditions, compared with flow-through regimens; and when animals were adequately nourished instead of being starved. While silver ions are very toxic to microorganisms, they generally do not inhibit microbial activity in sewage treatment plants because of reduced bioavailability due to rapid complexation and adsorption of silver ion. Free silver ion was lethal to representative species of sensitive aguatic plants, invertebrates, and teleosts at nominal water concentrations of 1-5 ug/litre. Adverse effects occur on development of trout at concentrations as low as 0.17 ug/litre and on phytoplankton species composition and succession at 0.3-0.6 ug/litre. Knowledge of the speciation of silver and its consequent bioavailability is crucial to understanding the potential risk of the metal. Background freshwater concentrations in pristine and most urban areas are well below concentrations that can cause toxic effects. Levels in most industrialized areas border on concentrations that can cause toxic effects, if conditions favour bioavailability. Toxicity test results indicate that it is unlikely that bioavailable free silver ions would ever be at sufficiently high concentrations to cause toxicity in marine environments. No data were found on effects of silver on wild birds or mammals, however silver was harmful to poultry (tested as silver nitrate) at concentrations as low as 100 mg total silver/litre in drinking-water or 200 mg total silver/kg in diets. Sensitive laboratory mammals were adversely affected at total silver concentrations (added as silver nitrate) as low as 250 ug/litre in drinking- water (brain histopathology), 6 mg/kg in diet (high accumulations in kidneys and liver), or 13.9 mg/kg body weight (lethality). The transport of silver through estuarine and coastal marine systems is dependent on biological uptake and incorporation. Uptake by phytoplankton is rapid, in proportion to silver concentration but is reduced with increased salinity. In contrast to studies performed with other toxic metals, sliver availability appears to be controlled by both the free silver ion concentration and the concentration of other silver complexes. Silver incorporated into the body tissue of phytoplankton is not lost as salinity increases and therefore is retained within the estuary. Sensitive phytoplankton species exhibit a marked delay in the onset of growth in response to silver at low concentrations, and while standard maximum growth rates are attained, this delay reduces the ability of a population to respond to shortterm favourable conditions to enable it to flourish.

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

# Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
silver nitrate	LOW	LOW
water	LOW	LOW

#### Bioaccumulative potential

Ingredient	Bioaccumulation	
silver nitrate	MEDIUM (BCF = 600)	
water	LOW (LogKOW = -1.38)	

# Mobility in soil

Ingredient	Mobility
silver nitrate	LOW (Log KOC = 14.3)

#### Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

#### **SECTION 13 Disposal considerations**

#### Waste treatment methods

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#### • Containers may still present a chemical hazard/ danger when empty.

• Return to supplier for reuse/ recycling if possible.

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- ▶ Disposal (if all else fails)

#### Product / Packaging disposal

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- ▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
- ▶ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

# **SECTION 14 Transport information**

#### **Labels Required**



#### Marine Pollutant



Shipping container, transport vehicle placarding, and labeling may vary from the below information. This depends on the quantity shipped, the applicability of excepted quantity requirements, limited quantity requirements, and/or special provisions according to US DOT, IATA and IMDG regulations. In case of reshipment, it is the responsibility of the shipper to determine the appropriate labels and markings in accordance with applicable transport regulations.

#### Land transport (DOT)

14.1. UN number or ID number	3264		
14.2. UN proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s. (contains silver nitrate)		
14.3. Transport hazard class(es)	Class Subsidiary Hazard	8 Not Applicable	
14.4. Packing group	II .		
14.5. Environmental hazard	Environmentally hazar	dous	
14.6. Special precautions for user	Hazard Label Special provisions	8 386, B2, IB2, T11, TP2, TP27	

# Air transport (ICAO-IATA / DGR)

14.1. UN number	3264	
14.2. UN proper shipping name	Corrosive liquid, acidic, inorganic, r	n.o.s. * (contains silver nitrate)
14.3. Transport hazard class(es)	ICAO/IATA Class	8

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	ICAO / IATA Subsidiary Hazard	Not Applicable	
	ERG Code	8L	
14.4. Packing group	II		
14.5. Environmental hazard	Environmentally hazardous		
14.6. Special precautions for user	Special provisions	A3 A803	
	Cargo Only Packing Instructions	855	
	Cargo Only Maximum Qty / Pack	30 L	
	Passenger and Cargo Packing In	851	
	Passenger and Cargo Maximum	1 L	
	Passenger and Cargo Limited Qu	Y840	
	Passenger and Cargo Limited Ma	aximum Qty / Pack	0.5 L

# Sea transport (IMDG-Code / GGVSee)

14.1. UN number	3264		
14.2. UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains silver nitrate)		
14.3. Transport hazard class(es)	IMDG Class IMDG Subsidiary Ha	8 azard Not Applicable	
14.4. Packing group	II		
14.5 Environmental hazard	Marine Pollutant		
440 00000000000000000000000000000000000	EMS Number	F-A , S-B	
14.6. Special precautions for user	Special provisions	274	
	Limited Quantities	1 L	

# 14.7. Maritime transport in bulk according to IMO instruments

# 14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

#### 14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
silver nitrate	Not Available
water	Not Available

#### 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
silver nitrate	Not Available
water	Not Available

# **SECTION 15 Regulatory information**

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

#### silver nitrate is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

US - Massachusetts - Right To Know Listed Chemicals

US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Corrosives

US - New Jersey Right to Know Hazardous Substances

US - Pennsylvania - Hazardous Substance List

US CWA (Clean Water Act) - List of Hazardous Substances

US CWA (Clean Water Act) - Priority Pollutants

US CWA (Clean Water Act) - Toxic Pollutants

US DOE Temporary Emergency Exposure Limits (TEELs)

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US EPCRA Section 313 Chemical List

US New York City Community Right-to-Know: List of Hazardous Substances

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

#### water is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

#### **Additional Regulatory Information**

Not Applicable

#### **Federal Regulations**

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

# US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
silver nitrate	1	0.454

#### US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know-Act of 1986 (40 CFR 372):

CAS No	%[weight]	Name
7761-88-8	1-5	silver nitrate
This information must be included in all SDSs that are copied and distributed for this material.		

#### **Additional Federal Regulatory Information**

Not Applicable

#### State Regulations

#### US. California Proposition 65

None Reported

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#### **Additional State Regulatory Information**

Not Applicable

#### **National Inventory Status**

National Inventory	Status		
Australia - AIIC / Australia Non-Industrial Use	Yes		
Canada - DSL	Yes		
Canada - NDSL	No (silver nitrate; water)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	Yes		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'		
Taiwan - TCSI	Yes		
Mexico - INSQ	Yes		
Vietnam - NCI	Yes		
Russia - FBEPH	Yes		
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.		

#### **SECTION 16 Other information**

Revision Date	11/17/2021
Initial Date	05/21/2012

# **SDS Version Summary**

Version	Date of Update	Sections Updated
3.1	10/31/2019	One-off system update. NOTE: This may or may not change the GHS classification
4.1	11/16/2021	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), Physical and chemical properties - Appearance, Toxicological information - Chronic Health, Hazards identification - Classification, Ecological Information - Environmental, Firefighting measures - Fire Fighter (fire fighting), Composition / information on ingredients - Ingredients, Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (storage requirement), Identification of the substance / mixture and of the company / undertaking - Synonyms, Transport Information

#### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

# **Definitions and abbreviations**

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit₀
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ► TLV: Threshold Limit Value

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- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code
- AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ► TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.