SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

Revision: 06/22/2023

SECTION 1: Identification

Product identifier

Product name	Mercuric Nitrate Titrating Solution
Product number	R-0845; R-0845-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Water Technologies LLC 31 Loveton Circle Sparks, MD 21152 Local: (410) 472-4340 – 8am – 5pm EST Toll-free: (800) 837-8548 – 8am – 5pm EST
Emergency phone number	
CHEMTREC, United States	1-800-424-9300 – 24-hour service
CHEMTREC, International	+1 703-741-5970 – 24-hour service

SECTION 2: Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Eye damage/irritation	Category 1
	Skin corrosion/irritation	Category 1B
	Reproductive toxicity	Category 1B
Environmental hazards	Acute (short-term) aquatic toxicity hazard	Category 2
	Chronic (long-term) aquatic toxicity hazard	Category 2

Label elements

Hazard pictograms

Signal word: Danger

Hazard statements: Causes severe skin burns and serious eye damage. May damage fertility or the unborn child. May be corrosive to metals. Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust or mists. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original container. Avoid release into the environment.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a physician or poison control center.

IF EXPOSED OR CONCERNED: Get medical advice/attention.

Absorb spillage to prevent material damage. Collect spillage.

Storage: Store locked up. Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F.

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

Hazards not otherwise classified: Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	to 100
Mercuric nitrate, monohydrate	Mercury dinitrate	7783-34-8	0.1-1
Non-hazardous and other components below reportable levels	Not applicable	Not applicable	<1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/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 advice/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/attention.

If swallowed

Immediately call a physician or poison control center. 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. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Direct skin or eye contact may cause corrosive burns. Symptoms may include pain, redness or swelling. Scarring or permanent damage, including blindness, could result. Inhalation may cause severe respiratory irritation, such as coughing and wheezing. Inhalation could result in pulmonary edema, symptoms—chest pain, shortness of breath—may be delayed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding. Contains an ingredient that may cause damage to fertility or the unborn child.

Refer to section 11 of the SDS for delayed and immediate effects and chronic effects from short- and long-term exposure.

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.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	Hazardous reactions will not occur under normal conditions.
Hazardous combustion products	Oxides of mercury.

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. 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 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. 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

Personal precautions, protective equipment, and emergency procedures

Do not breathe mist. 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

Store locked up. Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

Components	Type	Value
Mercuric nitrate, monohydrate (CAS 7783-34-8) as Mercury	TWA	0.025 mg/m^3

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Mercuric nitrate, monohydrate (CAS 7783-34-8) as Mercury	Ceiling	0.05 mg/m^3 (skin)
Mercuric nitrate, monohydrate (CAS 7783-34-8) as Mercury	IDLH	10 mg/m^3

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

Components	Type	Value
Mercuric nitrate, monohydrate (CAS 7783-34-8) as Mercury	Ceiling	0.1 mg/m^3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Mercuric nitrate, monohydrate (CAS 7783-34-8)	15 µg/L	Total inorganic mercury	blood	End of shift at end of workweek

Components	Value	Determinant	Specimen	Sampling Time
Mercuric nitrate, monohydrate (CAS 7783-34-8)	35 µg/g creatinine	Total inorganic mercury	Urine	Prior to shift

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.
Skin protection	Wear appropriate chemical-resistant gloves and clothing.
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	1.7
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	Soluble in water
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	This product is stable and non-reactive under normal conditions of use, storage, and transport.
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	Reducing agents, including phosphorus and hypophosphorous acid, or tin(II) chloride. Acetylene, alcohols, alkyl esters, phosphine.
Hazardous decomposition products	No hazardous decomposition products known.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation	Avoid inhalation of this product. Use in a well-ventilated area.
Skin contact	Protect exposed skin from contact. Use caution to avoid splashes.
Eye contact	Avoid close eye contact; use caution to avoid splashes. Wear eye protection.
Ingestion	Do not ingest. Avoid accidental ingestion by observing good hygiene practices. Wash hands thoroughly after handling this product.
Symptoms related to the physical, chemical, and toxicological characteristics	Refer to section 4 of the SDS for most important symptoms and effects.

Delayed and immediate effects and chronic effects from short- and long-term exposure

Acute toxicity	This product is not classified as an acute toxicity hazard. Acute toxicity estimate (ATE) has been calculated based on chapter 3 of GHS.

Product acute toxicity estimate (ATE)

ATEmix (Oral)	4727 mg/kg

ATEmix (Dermal)	13,636 mg/kg
ATEmix (Inhalation)	9 mg/L, dust or mist

Component(s)	Species	Acute toxicity data
Mercuric nitrate, monohydrate (CAS 7783-34-8)		
LD50 (Oral)	Rat	26 mg/kg (source: NIH)
LD50 (Dermal)	Rat	75 mg/kg (source: NIH)
LC50 (Inhalation)	N/A	0.05 mg/L, 4hr (estimate)

Skin corrosion/irritation	Causes severe skin burns.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity	May damage fertility or the unborn child.
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

Ecotoxicity Toxic to aquatic life with long lasting effects.

Mercuric nitrate, monohydrate (CAS 7783-34-8)		
LC50	Fish	0.086 – 0.347 mg/L, 96 hours

Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	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	3264
UN Proper shipping name	Corrosive liquid, acidic, inorganic, N.O.S. (Mercuric nitrate solution)
Reportable Quantity	10lbs, mercuric nitrate
Class (Subsidiary risk)	8
Label(s)	8
Packing group	II
Special provisions	386, B2, IB2, T11, TP2, TP27
Packaging exceptions	154
Packaging, non-bulk	202

IATA

UN number	3264

UN Proper shipping name	Corrosive liquid, acidic, inorganic, N.O.S. (Mercuric nitrate solution)
Class (Subsidiary risk)	8
Packing group	II
Special provisions	A3, A803

IMDG

UN number	3264
UN Proper shipping name	Corrosive liquid, acidic, inorganic, N.O.S. (Mercuric nitrate solution)
Class (Subsidiary risk)	8
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
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 hazard pictograms

IATA; IMDG hazard pictograms

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Chemical name	CAS number	Reportable Quantity
Mercuric nitrate, monohydrate	7783-34-8	10 lbs.

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

SARA 313 (TRI reporting)

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

Safe Drinking Water Act (SDWA)

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

WARNING: This product can expose you to mercuric nitrate (mercury compound), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to **www.P65Warnings.ca.gov**

Massachusetts Right-to-Know Act

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

New Jersey Worker and Community Right-to-Know Act

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

Pennsylvania Worker and Community Right-to-Know Act

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

Rhode Island Right-to-Know Act

Chemical name	CAS number
Mercuric nitrate, monohydrate	7783-34-8

SECTION 16: Other information

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 Water Technologies LLC disclaims all expressed or implied warranties and assumes no responsibility for the accuracy of 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.

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06/22/2023

Revision information:

This document embodies significant change(s) that may impact classification, safe handling, or health information for the associated product(s). The information contained herein should be reviewed in its entirety before handling material.

Supersedes revision dated August 2018.