



SAFETY DATA SHEET

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

SECTION 1: Identification

Product identifier

Product name Acid Starch Indicator Powder

Product number R-0725; R-0725-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

Corrosive to metals

Category 1

Health hazards

Eye damage/irritation

Category 1

Skin corrosion/irritation

Category 1

Environmental hazards

No data available



Label elements

Hazard pictograms

Signal word

Danger

Hazard statements

May be corrosive to metals. Causes severe skin burns and eye damage.

Precautionary statements

Prevention

Keep only in original container. Do not breathe dusts or mists. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur.

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Take off immediately 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. Absorb spillage to prevent material damage.

Storage

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

No data available

SECTION 3: Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Sulfamic acid	Amidosulfonic acid	5329-14-6	75–85
Starch	Maltodextrin	9050-36-6	15–25

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. Chemical burns must be treated by a physician.

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. Call a physician or poison control center immediately.

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.

Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

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 May be corrosive to metals

Hazardous combustion products Carbon oxides, hydrogen chloride, and sulfur oxides. Other irritating fumes and smoke.

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

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. Dilute acid with water and neutralize with dilute base. If not recoverable, dilute with water or flush to holding area and neutralize. 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 dust. Avoid dust formation. 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 in corrosive-resistant container with a corrosive-resistant inner liner. 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

Not regulated

NIOSH: Pocket Guide to Chemical Hazards

Components

Not regulated

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

Components

Not regulated

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

Solid

Form

Powder

Color

Off-white, light yellow

Odor

Odorless, mild odor

Odor threshold

No data available

pH

1-2

Evaporation rate

No data available

Melting point

No data available

Freezing point

No data available

Boiling point

No data available

Flash point

No data available

Auto-ignition temperature

No data available

Decomposition temperature

No data available

Flammability (solid, gas)

No data available

Vapor pressure

No data available

Relative vapor density

No data available

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	May be corrosive to metals.
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	Chlorine, metal compounds, nitric acid, oxidizing agents, reducing agents, and strong bases.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological Information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring. Direct contact with concentrated solutions may be corrosive to the eyes and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of dust can cause severe respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (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, bleeding.
Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	Causes severe skin burns
Serious eye damage/eye irritation	Causes serious eye damage
Respiratory or skin sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	

IARC Monographs. Overall Evaluation of Carcinogenicity

Not classifiable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

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

Ecotoxicity	This product is not classified as environmentally hazardous.
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	2967
UN Proper shipping name	Sulphamic acid
Reportable Quantity	
Class (Subsidiary risk)	8
Label(s)	8
Packing group	III
Special provisions	IB8, IP3, T1, TP33
Packaging exceptions	154
Packaging, non-bulk	213

IATA

UN number	2967
UN Proper shipping name	Sulphamic acid
Class (Subsidiary risk)	8
Packing group	III
Special provisions	A803

IMDG

UN number	2967
UN Proper shipping name	Sulphamic acid
Class (Subsidiary risk)	8
Packing group	III
Environmental hazards	
Marine pollutant	No
Special provisions	None
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)

Not regulated

OSHA Hazard Communication Standard (29 CFR 1910.1200)

<u>Chemical name</u>	<u>CAS number</u>
Sulfamic acid	5329-14-6

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

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

<u>Chemical name</u>	<u>CAS number</u>
Sulfamic acid	5329-14-6

SARA 313 (TRI reporting)

Not regulated

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)

Not regulated

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfamic acid	9050-36-6

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other Information

NFPA Rating

Health hazard	2
Fire hazard	0
Reactivity	1
Specific	N/A

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 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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Issue date:

April 2015

Last revisions

July 2019



SAFETY DATA SHEET

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

SECTION 1: Identification

Product identifier

Product name Barium Chloride Solution 20%

Product number R-0711; R-0711-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

No data available

Health hazards

Acute toxicity, oral

Category 4

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms



Signal word

Warning

Hazard statements

Harmful if swallowed.

Precautionary statements

Prevention

Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product.

Response

IF SWALLOWED: Call a physician or poison control center if you feel unwell. Rinse mouth.

Storage

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	80-100
Barium Chloride Dihydrate	Barium Dichloride Dihydrate	10326-27-9	10-30

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

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.

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.

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 Barium oxides, hydrochloride gas. Other irritating fumes and smoke.

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

Do not handle until all safety precautions have been read and understood. 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 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
Barium chloride dihydrate (CAS 10326-27-9) as Ba	TWA	0.5 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Barium chloride dihydrate (CAS 10326-27-9) as Ba	TWA	0.5 mg/m ³
Barium chloride dihydrate (CAS 10326-27-9) as Ba	IDLH	50 mg/m ³

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

Components	Type	Value
Barium chloride dihydrate (CAS 10326-27-9) as Ba	TWA	0.5 mg/m ³

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 if contact is likely to occur.
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	6.7
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
Relative density	No data available
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	Ammonia, halogens, oxidizing agents, sulfides.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological Information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.	
Most important symptoms/effects, acute and delayed	Direct skin contact may cause 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, pain, muscular paralysis, barotasis, and diarrhea.

Acute toxicity	This product is classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.
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Product	Species	Acute Toxicity Estimate (ATE)
Barium Chloride Solution 20% (CAS Mixture)		
Acute		
Dermal		
LD ₅₀	Rat	No data available
Inhalation		
LC ₅₀	Rat	>5 mg/L
Oral		
LD ₅₀	Rat	568mg/kg
Components	Species	Acute Toxicity Data
Barium Chloride Dihydrate (10326-27-9)		

Acute		
Dermal		
LD ₅₀	Rat	No data available
Inhalation		
LC ₅₀	Rat	1.5 mg/L
Oral		
LD ₅₀	Rat	100 mg/kg
Skin corrosion/irritation	No data available	
Serious eye damage/eye irritation	No data available	
Respiratory sensitization	No data available	
Skin sensitization	No data available	
Germ cell mutagenicity	No data available	
Carcinogenicity		

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not listed

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

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

Ecotoxicity	This product is not classified as environmentally hazardous.
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	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

SECTION 15: Regulatory Information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

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
Barium Chloride Dihydrate	10326-27-9

SARA 313 (TRI reporting)

Chemical name	CAS number
Barium Chloride Dihydrate	10326-27-9

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)

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Chemical name	CAS number
Barium Chloride Dihydrate	10326-27-9

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Barium Chloride Dihydrate	10326-27-9

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Barium Chloride Dihydrate	10326-27-9

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Barium Chloride Dihydrate	10326-27-9

SECTION 16: Other Information**NFPA Rating**

Health hazard	2
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

July 2019



SAFETY DATA SHEET

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

SECTION 1: Identification

Product identifier

Product name: Calcium Buffer
Product number: R-0653-2; R-0653-2-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

Corrosive to metals

Category 1

Health hazards

Eye damage/irritation

Category 1

Skin corrosion/irritation

Category 1A

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms



Signal word: Danger

Hazard statements: May be corrosive to metals. Causes severe skin burns and serious eye damage.

Precautionary statements:

Prevention: 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.

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 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. Absorb spillage to prevent material damage.

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	80-100
Sodium hydroxide	Caustic soda	1310-73-2	10-30

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

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.

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.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	May be corrosive to metals
Hazardous combustion products	Sodium oxides. Other irritating fumes and smoke.

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 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

Personal precautions, protective equipment, and emergency procedures

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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

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
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

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

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

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 if contact is likely to occur.
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	14
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
Relative density	No data available
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	May be corrosive to metals.
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	Metal compounds, nitromethane, oxidizing agents, strong acids, and sugars.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological Information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.	
Most important symptoms/effects, acute and delayed	<p>Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring.</p> <p>Direct contact with concentrated solutions may be corrosive and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.</p> <p>Inhalation of mists can cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.</p> <p>May produce burns to lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.</p>
Acute toxicity	This product is not classified as an acute toxicity hazard.
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	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

Ecotoxicity	This product is not classified as environmentally hazardous.
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.

SECTION 14: Transport Information

DOT

UN number	1824
UN Proper shipping name	Sodium Hydroxide Solution
Reportable Quantity	
Class (Subsidiary risk)	8
Label(s)	8
Packing group	II
Special provisions	B2, IB2, N34, T7, TP2
Packaging exceptions	154
Packaging, non-bulk	202

IATA

UN number	1824
UN Proper shipping name	Sodium Hydroxide Solution
Class (Subsidiary risk)	8
Packing group	II
Special provisions	A3, A803

IMDG

UN number	1824
UN Proper shipping name	Sodium Hydroxide Solution
Class (Subsidiary risk)	8
Packing group	II
Environmental hazards	
Marine pollutant	No
Special provisions	None
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
Sodium Hydroxide	1310-73-2	1000 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

Not regulated

SARA 313 (TRI reporting)

Not regulated

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)**

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium Hydroxide	1310-73-2

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium Hydroxide	1310-73-2

Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium Hydroxide	1310-73-2

SECTION 16: Other Information**NFPA Rating**

Health hazard	3
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

July 2019



SAFETY DATA SHEET

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

Revision: 05/27/2021

SECTION 1: Identification

Product identifier

Product name Calcium Indicator Powder

Product number R-0011P; R-0011P-PL

Recommended use and restrictions

Water analysis. 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
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

Not applicable

Health hazards

Not applicable

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Precautionary statements

Prevention Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.

Response This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.

Storage 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
	Potassium Chloride	Not available	7447-40-7	80-100
	Non-hazardous and other components below reportable levels	Not applicable	Not applicable	0.1–1

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

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 irritation. Symptoms may include redness or itching. Tearing of the eyes or blurred vision may occur. Inhalation may cause respiratory irritation, such as coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

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	Carbon oxides, hydrogen chloride gas, potassium oxides. During fire, gases hazardous to health may be formed.

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

Wear appropriate protective equipment and clothing during cleanup. 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

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 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 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

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

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

Not regulated

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 safety glasses with side shields (or 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 if contact is likely to occur.
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	Solid
Form	Crystalline
Color	Purple-brown crystals
Odor	Odorless
Odor threshold	No data available
pH	No data available
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 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 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	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products known.

SECTION 11: Toxicological Information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical, and toxicological characteristics	Refer to section 4 of the SDS for most important symptoms and effects.
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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.
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Skin corrosion/irritation	No data available
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Serious eye damage/eye irritation	No data available
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Respiratory sensitization	No data available
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Skin sensitization	No data available
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Germ cell mutagenicity	No data available
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Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

Reproductive toxicity	No data available
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Specific target organ toxicity (single exposure)	No data available
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Specific target organ toxicity (repeated exposure)	No data available
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Aspiration hazard	No data available
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SECTION 12: Ecological Information

Ecotoxicity	This product is not classified as environmentally hazardous.
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Persistence and degradability	No data available
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Bioaccumulative potential	No data available
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Mobility in soil	No data available
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Other adverse effects	Large or frequent spills can have a harmful or damaging effect on the environment.
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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	Not regulated as dangerous goods
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IATA	Not regulated as dangerous goods
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IMDG	Not regulated as dangerous goods
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SECTION 15: Regulatory Information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

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

Not regulated

SARA 313 (TRI reporting)

Not regulated

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)

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other Information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Revision date:

05/27/2021

Revision information:

Identification: Emergency response

First-aid: Most important symptoms and effects, both acute and delayed

Toxicological Information: Information on likely routes of exposure



SAFETY DATA SHEET

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

Revision: 11/17/2021

SECTION 1: Identification

Product identifier

Product name

Chromate Indicator

Product number

R-0630; R-0630-PL

Recommended use and restrictions

Manufacturer

To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.

Taylor Technologies, Inc.

31 Loveton Circle

Sparks, MD 21152

Phone: (410) 472-4340

Emergency phone: (800) 837-8548

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

Not applicable

Health hazards

Eye damage/irritation	Category 2
Skin corrosion/irritation	Category 2
Carcinogenicity	Category 1B
Germ cell mutagenicity	Category 1B
Skin sensitization	Category 1
Acute (short-term) aquatic toxicity hazard	Category 1
Chronic (long-term) aquatic toxicity hazard	Category 1

Environmental hazards

Label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Causes skin irritation. Causes serious eye irritation. May cause cancer. May cause genetic defects. May cause an allergic skin reaction. Very 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. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Avoid release into the environment.

Response

IF ON SKIN: Wash with plenty of water.

IF SKIN IRRITATION OR RASH OCCURS: Get medical advice/attention. Take off 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.

IF EXPOSED OR CONCERNED: Get medical advice/attention.

Collect spillage.

Storage

Store locked up. 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	80-100
Potassium Chromate	Dipotassium chromate	7789-00-6	5-10

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

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.

Most important symptoms and effects, both acute and delayed

Direct skin or eye contact may cause serious irritation. Symptoms may include redness or itching. Tearing of the eyes or blurred vision may occur. Skin contact may cause allergic skin reaction, dermatitis or rash. Inhalation may cause respiratory irritation, such as coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. This product contains material that may be carcinogenic or mutagenic to humans.

Refer to section 11 of the SDS for delayed and immediate effects and chronic effects from short- and long-term exposure. Refer to section 7 for precautions for safe handling.

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 May be corrosive to metals.

Hazardous combustion products Chromium oxides, potassium oxides. During fire, gases hazardous to health may be formed.

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 dust or mists. 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 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 large 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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust or mists. 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 incompatible materials. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store locked up. 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
Potassium chromate (CAS 7789-00-6) as Cr (VI)	TWA	0.0002 mg/m ³
Potassium chromate (CAS 7789-00-6) as Cr (VI)	STEL	0.0005 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Potassium chromate (CAS 7789-00-6) as Cr (VI)	TWA	0.0002 mg/m ³

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

Components	Type	Value
Potassium chromate (CAS 7789-00-6) as Cr (VI)	TWA	0.005 mg/m ³
Potassium chromate (CAS 7789-00-6) as Cr (VI)	Ceiling	0.1 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Potassium chromate (CAS 7789-00-6) as Cr (VI)	10 µg/L	Total chromium	Urine	Increase during shift
Potassium chromate (CAS 7789-00-6) as Cr (VI)	25 µg/L	Total chromium	Urine	End of shift at end of work week

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 safety glasses with side shields (or 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	Light yellow
Odor	Odorless
Odor threshold	No data available
pH	9
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
Relative density	No data available
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 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	Strong oxidizing agents. Strong reducing agents. Combustibles, organic materials, powdered metals.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

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	Direct skin or eye contact may cause serious irritation. Skin contact may cause allergic skin reaction, dermatitis or rash. This product contains material that may be carcinogenic or mutagenic to humans, based on sufficient evidence of carcinogenicity in humans. May cause heritable genetic damage.

Acute toxicity

Refer to section 4 of the SDS for most important symptoms and effects.

This product is not classified as an acute toxicity hazard. Acute toxicity estimate (ATE) has been calculated based on chapter 3 of GHS. 0% of the mixture consists of ingredient(s) with unknown acute toxicity.

Product acute toxicity estimate (ATE)

ATEmix (Oral)	> 2500 mg/kg
ATEmix (Dermal)	No data available
ATEmix (Inhalation)	No data available

Component(s)	Species	Acute toxicity data
Potassium Chromate (CAS 7789-00-6)		
LD50 (Oral)	Mouse	180 mg/kg (source: vendor)
LD50 (Dermal)	Rabbit	No data available
LC50 (Inhalation)	Rat	No data available
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitization	No data available	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	May cause genetic defects.	
Carcinogenicity		
IARC Monographs. Overall Evaluation of Carcinogenicity		
Chromium(VI) Compounds, Group 1; Carcinogenic to humans		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)		
Chromium(VI) Compounds; Cancer		
US National Toxicology Program (NTP) Report on Carcinogens		
Chromium(VI) Compounds, Known to be a human carcinogens		
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

Ecotoxicity	Very toxic to aquatic life, with long-lasting effects.
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Potassium Chromate (CAS 7789-00-6)

EC50	Crustacea (Water flea)	0.024 mg/L, 48 hours (source: vendor)
LC50	Fish (Sheepshead minnow)	23 – 27 mg/L, 96 hours (source: vendor)
Persistence and degradability		
Bioaccumulative potential		
Mobility in soil		
Other adverse effects		

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.

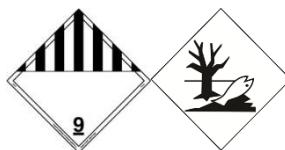
SECTION 14: Transport information

DOT

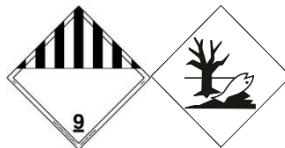
UN number	3082
UN Proper shipping name	Environmentally hazardous substances, liquid, N.O.S. (Potassium chromate)
Reportable Quantity	10lbs, Potassium chromate
Class (Subsidiary risk)	9
Label(s)	9
Packing group	III
Special provisions	8, 146, 173, 335, IB3, T4, TP1, TP29

Packaging exceptions	155
Packaging, non-bulk	203
IATA	
UN number	3082
UN Proper shipping name	Environmentally hazardous substances, liquid, N.O.S. (Potassium chromate)
Class (Subsidiary risk)	9
Packing group	III
Special provisions	A97, A158, A197
IMDG	
UN number	3082
UN Proper shipping name	Environmentally hazardous substances, liquid, N.O.S. (Potassium chromate)
Class (Subsidiary risk)	9
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special provisions	274, 335, 969
EmS	F-A, S-F
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
Potassium Chromate	7789-00-6	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
Potassium Chromate	7789-00-6

SARA 313 (TRI reporting)

Chemical name	CAS number
Potassium Chromate	7789-00-6

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)

Chemical name	CAS number
Potassium Chromate	7789-00-6

Other federal regulations

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

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

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)

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

Safe Drinking Water Act (SDWA)

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

WARNING: This product can expose you to Potassium chromate (hexavalent chromium compound), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Massachusetts Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Potassium Chromate	7789-00-6

SECTION 16: Other information**NFPA Rating**

Health hazard	3
Fire hazard	0
Reactivity	0
Specific	N/A

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 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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Issue date:

May 2015

Revision date:

11/17/2021

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.

Identification: Emergency response

Hazard identification: Classification

First-aid: Most important symptoms and effects, both acute and delayed

Toxicological Information: Information on likely routes of exposure

Supersedes revision dated January 2018.

SECTION 1: Identification**Product identifier**

Product name

Hardness Buffer

Product number

R-0619; R-0619B; R-0619LB; R-0619B-PL; R-0619LB-PL

Recommended use and restrictions**Manufacturer**

Water analysis. To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.

Taylor Technologies, Inc.

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**

Not applicable

Health hazards

Acute toxicity, oral

Category 4

Eye damage/irritation

Category 1

Skin corrosion/irritation

Category 1C

Acute aquatic toxicity

Category 1

Environmental hazards**Label elements**

Hazard pictograms



Signal word

Danger

Hazard statements

Harmful if swallowed. Causes severe skin burns and serious eye damage. Very toxic to aquatic life.

Precautionary statements**Prevention**

Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not breathe dust or mists. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Avoid release into the environment.

Response

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 SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center if you feel unwell. 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. Collect spillage.

Storage

Store locked up. 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

45-70

Ammonium hydroxide

Ammonia water

1336-21-6

20-30

Ammonium chloride

Salmiac

12125-02-9

5-10

Ammonium sulfide	Not applicable	12135-76-1	0.1-1
Non-hazardous components or below reportable levels	Not applicable	Not applicable	<3
The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.			

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

Rinse mouth. Give large quantities of water. 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. Immediately call a physician.

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.

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 Water fog, foam, dry chemical powder, carbon dioxide (CO₂).

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 Ammonia, hydrogen chloride, nitrogen oxides, sodium oxides, sulfur oxides. During fire, gases hazardous to health may be formed, including toxic hydrogen sulfide gas.

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 dust/fumes/gas/mists/vapors/spray. 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 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 large 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 dust/fumes/gas/mists/vapors/spray. 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 away from incompatible materials (refer to section 10 of the SDS). Store locked up.

SECTION 8: Exposure Controls/Personal Protection

Occupational exposure limits

US ACGIH Threshold Limit Values

Components	Type	Value
Ammonia (7664-41-7)	TWA	25 ppm (18 mg/m ³)
Ammonia (7664-41-7)	STEL	35 ppm (27 mg/m ³)

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ammonia (7664-41-7)	TWA	25 ppm (18 mg/m ³)
Ammonia (7664-41-7)	STEL	35 ppm (27 mg/m ³)
Ammonia (7664-41-7)	IDLH	300 ppm (210 mg/m ³)

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

Components	Type	Value
Ammonia (7664-41-7)	TWA	50 ppm (35 mg/m ³)

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 safety glasses with side shields (or 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 if contact is likely to occur
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 to yellow
Odor	Pungent, sulfur/ammonia odor
Odor threshold	No data available
pH	10.5
Evaporation rate	No data available
Melting point/freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	Not applicable
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
Relative density	0.96 g/mL at 72°F (22°C)
Solubility	Miscible
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing

SECTION 10: Stability and Reactivity

Reactivity	Hazardous reactions will not occur 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	Strong acids. Strong oxidizing agents. Halogens, nitrates, metals, and metal compounds.
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. Substance can be absorbed into the body by inhalation of its aerosol or vapor.
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	Avoid accidental ingestion by observing good hygiene practices. Wash hands thoroughly after handling this product.

Symptoms related to the physical, chemical, and toxicological characteristics

This product may be harmful if swallowed. Corrosive skin/eye damage may occur.
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 classified as an acute toxicity hazard. Acute toxicity estimate (ATE) for the mixture has been calculated based on chapter 3 of GHS. 0% of the mixture consists of ingredient(s) with unknown acute oral toxicity.
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Product acute toxicity estimate (ATE)

ATEmix (Oral)	1065 mg/kg
ATEmix (Dermal)	No data available
ATEmix (Inhalation)	No data available

Component(s)	Species	Acute toxicity data
Ammonium chloride (CAS 12125-02-9)		
LD50 (Oral)	Rat	1650 mg/kg (Source: NIOSH)
LD50 (Dermal)	Not applicable	No data available
LC50 (Inhalation)	Not applicable	No data available
Ammonium hydroxide (CAS 1336-21-6)		
LD50 (Oral)	Rat	350 mg/kg (Source: NIOSH)
LD50 (Dermal)	Not applicable	No data available
LC50 (Inhalation)	Not applicable	No data available
Ammonium sulfide (CAS 12135-76-1)		

LD50 (Oral)	Rat	168 mg/kg (Source: ProQuest)
LD50 (Dermal)	Not applicable	No data available
LC50 (Inhalation)	Not applicable	No data available
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 listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

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

Ecotoxicity	This product is classified as environmentally hazardous.
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Ammonium chloride (CAS 12125-02-9)

Rainbow trout	96hr LC50 = 0.42 – 0.56 mg/L
American lobster	48hr EC50 = 0.237 – 0.288 mg/L

Ammonium hydroxide (CAS 1336-21-6)

Fathead minnow	96hr LC50 = 8.2 mg/L
Water flea	48hr EC50 = 0.66 mg/L

Ammonium sulfide (CAS 12135-76-1)

Carp	48hr LC50 = 4.4 – 5.9 mg/L
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Persistence and degradability

Bioaccumulative potential	No data available
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Mobility in soil	No data available
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Other adverse effects	Large or frequent spills can have a harmful or damaging effect on the environment.
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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	2672
UN Proper shipping name	Ammonia solution, 10-35%
Reportable Quantity	1000 lbs, Ammonium hydroxide
Class (Subsidiary risk)	8
Label(s)	8
Packing group	III
Special provisions	336, IB3, IP8, T7, TP2

Packaging exceptions	154
Packaging, non-bulk	203

IATA

UN number	2672
UN Proper shipping name	Ammonia solution
Class (Subsidiary risk)	8
Packing group	III
Special provisions	A64, A803

IMDG

UN number	2672
UN Proper shipping name	Ammonia solution
Class (Subsidiary risk)	8
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special provisions	None
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
Ammonium chloride	12125-02-9	5000 lbs
Ammonium hydroxide	1336-21-6	1000 lbs
Ammonium sulfide	12135-76-1	100 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
Ammonium chloride	12125-02-9
Ammonium hydroxide	1336-21-6
Ammonium sulfide	12135-76-1

SARA 313 (TRI reporting)

Chemical name	CAS number
Ammonium hydroxide	1336-21-6

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)

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Massachusetts Right-to-Know Act

Chemical name	CAS number
Ammonium chloride	12125-02-9
Ammonium hydroxide	1336-21-6
Ammonium sulfide	12135-76-1

New Jersey Worker and Community Right-to-Know Act

Chemical name	CAS number
Ammonium chloride	12125-02-9
Ammonium hydroxide	1336-21-6
Ammonium sulfide	12135-76-1

Pennsylvania Worker and Community Right-to-Know Act

Chemical name	CAS number
Ammonium chloride	12125-02-9
Ammonium hydroxide	1336-21-6
Ammonium sulfide	12135-76-1

Rhode Island Right-to-Know Act

Chemical name	CAS number
Ammonium chloride	12125-02-9
Ammonium hydroxide	1336-21-6
Ammonium sulfide	12135-76-1

SECTION 16: Other Information

NFPA Rating

Health hazard	3
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Revision date:

06/25/2021

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.



SAFETY DATA SHEET

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

Revision: 04/26/2022

SECTION 1: Identification

Product identifier

Product name

Hardness Indicator Powder

Product number

R-0620; R-0620B; R-0620LB; R-0620-PL; R-0620B-PL

Recommended use and restrictions

Water analysis. 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

Not classified

Health hazards

Not classified

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms

Not applicable

Signal word

Not applicable

Hazard statements

The mixture does not meet the criteria for classification.

Precautionary statements

Prevention: Do not breathe dust. Avoid contact with skin, eyes, or clothing. Do not ingest.

Response: Wash hands after handling. If eye contact occurs, flush thoroughly with water.

Storage: 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
Sucrose	Sugar	57-50-1	99-100
Non-hazardous and other components below reportable levels	Not applicable	Not applicable	<1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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

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 temporary irritation. Symptoms may include redness or itching. Tearing of the eyes or blurred vision may occur. Inhalation may cause respiratory irritation, such as coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

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	Carbon oxides, sodium oxides. During fire, gases hazardous to health may be formed.

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

Wear appropriate protective equipment and clothing during cleanup. 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

Large spills: Dike the spilled material where this is possible. Wet down with water. Transfer dampened material into waste container. Use care to minimize dust generation and accumulation. Following product recovery, flush area with water.

Small spills: Sweep up spillage and collect in suitable container for disposal. Never return spills to original containers for reuse. Wipe surface clean to remove residual contamination.

In the event of large 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 dust. 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 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
Sucrose (CAS 57-50-1)	TWA	10 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sucrose (CAS 57-50-1)	TWA	10 mg/m ³ (Total)
Sucrose (CAS 57-50-1)	TWA	5 mg/m ³ (Resp)

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

Components	Type	Value
Sucrose (CAS 57-50-1)	TWA	15 mg/m ³ (Total)
Sucrose (CAS 57-50-1)	TWA	5 mg/m ³ (Resp)

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 safety glasses with side shields (or 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 if contact is likely to occur.
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	Solid
Form	Powder
Color	Purple
Odor	Odorless
Odor threshold	No data available
pH	No data available
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	Not explosive
Oxidizing properties	Not oxidizing

SECTION 10: Stability and Reactivity

Reactivity	Hazardous reactions will not occur 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	Strong acids, strong oxidizing agents.
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 care to minimize dust generation and accumulation. Use in a well-ventilated area.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause irritation.
Ingestion	Avoid accidental ingestion by observing good hygiene practices. Wash hands thoroughly after handling this product.

Symptoms related to the physical, chemical, and toxicological characteristics

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.
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

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

Ecotoxicity	This product is not classified as environmentally hazardous.
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	Not regulated as dangerous goods
IATA	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods

SECTION 15: Regulatory Information**US federal regulations****CERCLA Hazardous Substance (40 CFR 302.4)**

Not regulated

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

Not regulated

SARA 313 (TRI reporting)

Not regulated

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)**

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sucrose	57-50-1

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sucrose	57-50-1

SECTION 16: Other Information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015

Revision date:

04/26/2022

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.

Identification: Manufacturer information and emergency phone number

First aid: Most important symptoms and effects, both acute and delayed

Toxicological Information: Likely routes of exposure

Supersedes revision dated July 2019.



SAFETY DATA SHEET

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

Revision: 04/26/2022

SECTION 1: Identification

Product identifier

Product name

Hardness Reagent

Product number

R-0683; R-0683-PL

Recommended use and restrictions

Manufacturer

Water analysis. To be used in accordance with manufacturer instructions or under the direct guidance of the 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

Not classified

Health hazards

Not classified

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms

Not applicable

Signal word

Not applicable

Hazard statements

The mixture does not meet the criteria for classification.

Precautionary statements

Prevention

Avoid contact with skin, eyes, or clothing. Do not ingest.

Response

Wash hands after handling. If eye contact occurs, flush thoroughly with water.

Storage

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	95-100
Non-hazardous and other components below reportable levels	Not applicable	Not applicable	<5

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

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 temporary irritation. Symptoms may include redness or itching. Tearing of the eyes or blurred vision may occur. Inhalation may cause respiratory irritation, such as coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

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	Carbon oxides, hydrogen chloride gas, magnesium oxides, nitrogen oxides, sodium oxides. During fire, gases hazardous to health may be formed.

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

Wear appropriate protective equipment and clothing during cleanup. 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

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

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 away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure Controls/Personal Protection

Occupational exposure limits

No exposure limits noted for the ingredient(s).

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 safety glasses with side shields (or 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 if contact is likely to occur.
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 or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	8.1
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	Hazardous reactions will not occur 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	Oxidizing agents and metals.
Hazardous decomposition products	No hazardous decomposition products known.

SECTION 11: Toxicological Information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
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Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
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.
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

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

Ecotoxicity	This product is not classified as environmentally hazardous.
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	Not regulated as dangerous goods
IATA	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods

SECTION 15: Regulatory Information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

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

Not regulated

SARA 313 (TRI reporting)

Not regulated

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)**

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other Information**NFPA Rating**

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Revision date:

04/26/2022

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.

Identification/Other: Manufacturer information and emergency phone number

First-aid: Most important symptoms and effects, both acute and delayed

Toxicological Information: Information on likely routes of exposure

Supersedes revision dated July 2019.

SECTION 1: Identification**Product identifier**

Product name Hydrochloric Acid .12N, N/30

Product number R-0724; R-0724-PL; R-0899

Recommended use and restrictions**Manufacturer**

Water analysis. To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.

Taylor Technologies, Inc.
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**

Not applicable

Health hazards

Eye damage/irritation

Category 2A

Skin corrosion/irritation

Category 2

Environmental hazards

Not applicable

Label elements

Hazard pictograms



Signal word

Warning

Hazard statements

Causes serious eye irritation. Causes skin irritation.

Precautionary statements

Prevention

Wash skin thoroughly after handling. Wear eye protection/face protection/gloves if contact is likely to occur.

Response

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. IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage

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

99.5-100

Hydrogen chloride

Hydrochloric acid

7647-01-0

0.1-0.5

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

Rinse mouth. Give glass of water. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting. 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 serious irritation. Symptoms may include redness or itching. Tearing of the eyes or blurred vision may occur. Inhalation may cause respiratory irritation, such as coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

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 the 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 During fire, gases hazardous to health may be formed, including toxic hydrogen chloride gas.

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

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. 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 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 large 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 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
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm (3 mg/m ³)

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	5 ppm (7 mg/m ³)
Hydrochloric acid (CAS 7647-01-0)	IDLH	50 ppm (75 mg/m ³)

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

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	5 ppm (7 mg/m ³)

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 safety glasses with side shields (or 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 if contact is likely to occur
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	<2
Evaporation rate	No data available
Melting point/freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	Not applicable
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
Relative density	No data available
Solubility	Miscible with water
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available

SECTION 10: Stability and Reactivity

Reactivity	Hazardous reactions will not occur 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	Strong bases. Strong oxidizing agents.
Hazardous decomposition products	Hydrogen chloride.

SECTION 11: Toxicological Information

Information on likely routes of exposure

Inhalation	Avoid inhalation of this product. Use in a well-ventilated area.
Skin contact	Direct contact with skin may cause temporary irritation.
Eye contact	Direct contact with eyes may cause serious irritation. Avoid close eye contact; Use caution to avoid splashes. Wear eye protection.
Ingestion	Avoid accidental ingestion by observing good hygiene practices. Wash hands thoroughly after handling this product.

Symptoms related to the physical, chemical, and toxicological characteristics

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.

Skin corrosion/irritation

Causes skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrochloric acid; Group 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

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

Ecotoxicity

This product is not classified as environmentally hazardous.

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	Not regulated as dangerous goods
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IATA	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods

SECTION 15: Regulatory Information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Chemical name	CAS number	Reportable Quantity
Hydrochloric acid	7647-01-0	5000 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
Hydrochloric acid	7647-01-0

SARA 313 (TRI reporting)

Not regulated

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)

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Massachusetts Right-to-Know Act

Chemical name	CAS number
Hydrochloric acid	7647-01-0

New Jersey Worker and Community Right-to-Know Act

Chemical name	CAS number
Hydrochloric acid	7647-01-0

Pennsylvania Worker and Community Right-to-Know Act

Chemical name	CAS number
Hydrochloric acid	7647-01-0

Rhode Island Right-to-Know Act

Chemical name	CAS number
Hydrochloric acid	7647-01-0

SECTION 16: Other Information

NFPA Rating

Health hazard	1
Fire hazard	0
Reactivity	0

Specific

N/A

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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 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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Issue date:

May 2015

Revision date:

07/15/2021

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.



SAFETY DATA SHEET

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

SECTION 1: Identification

Product identifier

Product name Iodide Iodate Reagent

Product number R-0808; R-0808-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

No data available

Health hazards

Specific target organ toxicity, repeated exposure

Category 1

Eye damage/irritation

Category 2A

Skin corrosion/irritation

Category 2

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Causes damage to thyroid through prolonged or repeated exposure, oral route. Causes serious eye irritation. Causes skin irritation.

Precautionary statements

Prevention: Do not breathe dust/fumes/gas/mists/vapors/spray. Wash skin thoroughly after handling. Wear eye protection/face protection if contact is likely to occur. Do not eat, drink, or smoke when using this product.

Response

IF EXPOSED OR CONCERNED: Get medical advice/attention if you feel unwell. 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. IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage

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	80-100
Potassium Iodide	Potassium salt	7681-11-0	0.5-1.5
Other components below reportable levels	Not applicable	Not applicable	0.1-1

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

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.

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.

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	Iodine and potassium oxides. Other irritating fumes and smoke.

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 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

Personal precautions, protective equipment, and emergency procedures

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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 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

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

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

Not regulated

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 if contact is likely to occur.
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	12
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
Relative density	No data available
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	Strong acids, reducing agents, oxidizing agents, metals, maleic anhydride.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological Information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	<p>Direct skin contact may cause irritation. Symptoms may include redness and itching.</p> <p>Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.</p> <p>Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.</p> <p>Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.</p> <p>Prolonged or repeated exposure may cause thyroid adenoma.</p>
Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	May cause serious eye irritation.
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	No data available
Specific target organ toxicity (single exposure)	No data available
Specific target organ toxicity (repeated exposure)	Causes damage to thyroid through prolonged or repeated exposure, oral route.
Aspiration hazard	No data available

SECTION 12: Ecological Information

Ecotoxicity	This product is not classified as environmentally hazardous.
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	Not regulated as dangerous goods
IATA	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods

SECTION 15: Regulatory Information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

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

Not regulated

SARA 313 (TRI reporting)

Not regulated

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)

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other Information

NFPA Rating

Health hazard	1
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

July 2019



SAFETY DATA SHEET

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

Revision: 04/26/2022

SECTION 1: Identification

Product identifier

Product name

Silver Nitrate Reagent

Product number

R-0807; R-0807-PL

Recommended use and restrictions

Manufacturer

Water analysis. To be used in accordance with manufacturer instructions or under the direct guidance of the 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

Not classified

Health hazards

Not classified

Environmental hazards

Acute (short-term) aquatic toxicity hazard

Category 1

Chronic (long-term) aquatic toxicity hazard

Category 1

Label elements

Hazard pictograms



Signal word

Warning

Hazard statements

Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

Avoid release into the environment.

Response

Collect spillage.

Storage

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

Supplemental information

CAUTION: Protect skin and work surface. Chemical may stain.

SECTION 3: Composition/Information on Ingredients

Mixture	Chemical name	Common name and synonyms	CAS number	% w/w
	Water	Dihydrogen oxide	7732-18-5	99-100
	Silver Nitrate	Nitric Acid Silver(I) Salt	7761-88-8	0.1–1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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

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 temporary irritation. Symptoms may include redness or itching. Tearing of the eyes or blurred vision may occur. Contact may produce temporary discoloration of the skin. Inhalation may cause respiratory irritation, such as coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

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	Nitrogen oxides. During fire, gases hazardous to health may be formed.

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

Wear appropriate protective equipment and clothing during cleanup. 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

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

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 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
Silver Nitrate (CAS 7761-88-8) as Ag	TWA	0.01 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Silver Nitrate (CAS 7761-88-8) as Ag	TWA	0.01 mg/m ³
Silver Nitrate (CAS 7761-88-8) as Ag	IDLH	10 mg/m ³

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

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

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 if contact is likely to occur.
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, or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	3 – 5
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	1.003
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
Relative density	1.003 g/mL at 22°C

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	Hazardous reactions will not occur 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	Strong oxidizing materials, strong acids. Acetylene, alcohols, ammonia, magnesium, metals, sulfur.
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	Contact may produce temporary discoloration of the skin. Refer to section 4 of the SDS for most important symptoms and effects.
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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. See below for product and individual ingredient acute toxicity data. 0% of the mixture consists of ingredient(s) with unknown acute oral toxicity.
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Product acute toxicity estimate (ATE)

ATEmix (Oral)	> 2500 mg/kg
ATEmix (Dermal)	No data available
ATEmix (Inhalation)	No data available

Component(s)	Species	Acute toxicity data
Silver nitrate (CAS 7761-88-8)		
LD50 (Oral)	Rat	>2000 mg/kg (source: ECHA)
LD50 (Dermal)	Rabbit	No data available
LC50 (Inhalation)	Rat	No data available
Skin corrosion/irritation	No data available	
Serious eye damage/eye irritation	No data available	
Respiratory sensitization	No data available	
Skin sensitization	No data available	
Germ cell mutagenicity	No data available	
Carcinogenicity		

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not listed

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

Ecotoxicity	Very toxic to aquatic life with long lasting effects.	
Silver nitrate (CAS 7761-88-8)		
EC50	Aquatic invertebrates	0.00022 mg/L, 48 hours (ECHA)
LC50	Fish	0.0012 mg/L, 96 hours (ECHA)
Persistence and degradability		
Bioaccumulative potential		
Mobility in soil		
Other adverse effects		

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	3082
UN Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Silver nitrate solution)
Reportable Quantity	1lb, Silver nitrate
Class (Subsidiary risk)	9
Label(s)	9
Packing group	III
Special provisions	8, 146, 173, 335, IB3, T4, TP1, TP29
Packaging exceptions	155
Packaging, non-bulk	203

IATA

UN number	3082
UN Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Silver nitrate solution)
Class (Subsidiary risk)	9
Packing group	III
Special provisions	A97, A158, A197

IMDG

UN number	3082
UN Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Silver nitrate solution)
Class (Subsidiary risk)	9
Packing group	III

Environmental hazards

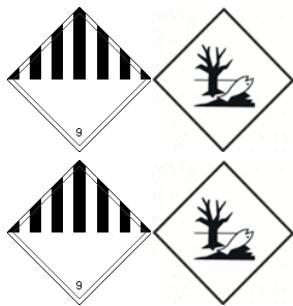
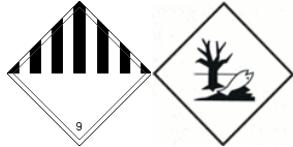
Marine pollutant	Yes
Special provisions	274, 335, 969
EmS	F-A, S-F

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)**

<u>Chemical name</u>	<u>CAS number</u>	<u>Reportable Quantity</u>
Silver Nitrate	7761-88-8	1 lb

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

<u>Chemical name</u>	<u>CAS number</u>
Silver Nitrate	7761-88-8

SARA 313 (TRI reporting)

<u>Chemical name</u>	<u>CAS number</u>
Silver Nitrate	7761-88-8

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)**

Not regulated

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)

<u>Chemical name</u>	<u>CAS number</u>
Silver Nitrate	7761-88-8

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Silver Nitrate	7761-88-8

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Silver Nitrate	7761-88-8

Pennsylvania Worker and Community Right-to-Know Act

Chemical name	CAS number
Silver Nitrate	7761-88-8

Rhode Island Right-to-Know Act

Chemical name	CAS number
Silver Nitrate	7761-88-8

SECTION 16: Other Information**NFPA Rating**

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

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. 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 Water Technologies LLC. The information contained in this sheet is based on lab experience and the most current data available.

Issue date:

May 2015

Revision date:

04/26/2022

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.

Manufacturer information and emergency phone number. Hazard and shipping classifications.

Supersedes revision dated July 2019.

SECTION 1: Identification
Product identifier

Product name

Sulfuric Acid N

Product number

R-0686; R-0686O; R-0686P; R-0686-PL; R-0686O-PL; R-0686P-PL

Recommended use and restrictions

Water analysis. 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

Environmental hazards

Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Causes severe skin burns and serious eye damage. May be corrosive to metals.

Precautionary statements

Prevention: Do not breathe mist or vapor. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original container.

Response

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 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.

Absorb spillage to prevent material damage.

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	90-100
Sulfuric acid	Sulphuric acid; Dihydrogen sulfate	7664-93-9	5-10

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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. Chemical burns must be treated by a physician.

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. Call a physician or poison control center immediately.

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

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.

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.

Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

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 May be corrosive to metals.

Hazardous combustion products Sulfur oxides. Other irritating fumes and smoke.

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 dust or mists. 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 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 large 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 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

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
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³ (thoracic particulate)

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³
Sulfuric acid (CAS 7664-93-9)	IDLH	15 mg/m ³

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

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³

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 if contact is likely to occur.
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 or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	<1
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	Not explosive
Oxidizing properties	Not oxidizing

SECTION 10: Stability and Reactivity

Reactivity	May be corrosive to metals.
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	Bases, strong oxidizing agents, strong reducing agents, metals, organic material.
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	Avoid accidental ingestion by observing good hygiene practices. Wash hands thoroughly after handling this product.

Symptoms related to the physical, chemical, and toxicological characteristics	Corrosive skin/eye damage may occur. Refer to section 4 of the SDS for most important symptoms and effects.
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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. 0% of the mixture consists of ingredient(s) with unknown acute oral toxicity.
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Product acute toxicity estimate (ATE)

ATEmix (Oral)	> 2500 mg/kg	
ATEmix (Dermal)	No data available	
ATEmix (Inhalation)	No data available	
Component(s)	Species	Acute toxicity data
Sulfuric acid (CAS 7664-93-9)		
LD50 (Oral)	Rat	2140 mg/kg
LD50 (Dermal)	Rabbit	No data available
LC50 (Inhalation)	Rat	No data available
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 listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Strong Inorganic Acid Mists Containing Sulfuric Acid (7664-93-9), known to be human carcinogens

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

Ecotoxicity This product is not classified as environmentally hazardous.

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	2796
UN Proper shipping name	Sulphuric acid solution
Reportable Quantity	1000 lbs
Class (Subsidiary risk)	8
Label(s)	8
Packing group	II
Special provisions	386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2
Packaging exceptions	154
Packaging, non-bulk	202

IATA

UN number	2796
UN Proper shipping name	Sulphuric acid solution
Class (Subsidiary risk)	8
Packing group	II
Special provisions	None

IMDG

UN number	2796
UN Proper shipping name	Sulphuric Acid Solution
Class (Subsidiary risk)	8
Packing group	II
Environmental hazards	
Marine pollutant	No
Special provisions	None
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
Sulfuric acid	7664-93-9	1000 lbs

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

Chemical name	CAS number
Sulfuric acid	7664-93-9

SARA 304 Emergency Release Notification

Chemical name	CAS number
Sulfuric acid	7664-93-9

SARA 311/312 Hazardous Chemical

Chemical name	CAS number
Sulfuric acid	7664-93-9

SARA 313 (TRI reporting)

Not regulated

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)

Not regulated

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)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

Not regulated

Massachusetts Right-to-Know Act

Chemical name	CAS number
Sulfuric acid	7664-93-9

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

SECTION 16: Other Information**NFPA Rating**

Health hazard	3
Fire hazard	0
Reactivity	1
Specific	N/A

Disclaimer

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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 Water Technologies LLC. The information contained in this sheet is based on lab experience and the most current data available.

Issue date:

May 2015

Revision date:

03/22/2022

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.

Identification: Manufacturer information and emergency phone number

First-aid: Most important symptoms and effects, both acute and delayed

Toxicological Information: Information on likely routes of exposure

Supersedes revision dated July 2019.