

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

SECTION 1: Identification

CTION 1: Identification		
Product identifier	OAN Oshellar	
Product name	CAN Solution	
Product number	R-0820; R-0820-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	
CTION 2: Hazard(s) identifie	cation	
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 additiona	l information, refer to section 12 of the SDS.
Label elements Hazard pictograms		
Signal word	Danger	
Hazard statements	May be corrosive to metals. Causes severe skir	n 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 if contact is likely to occur. Keep only in original container.	
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a physician or poison control center. Absorb spillage to prevent material damage.	
		control center. Absorb spillage to prevent
Storage		sive-resistant inner liner. Keep tightly capped
Storage Disposal	material damage. Store in corrosive-resistant container with corro	sive-resistant inner liner. Keep tightly capped. ween 36°F–85°F.

SECTION 3: Composition/information on ingredients

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Sulfuric acid	Sulphuric acid; Dihydrogen sulfate	7664-93-9	7-13
Ceric ammonium nitrate	Ammonium hexanitratocerate	16774-21-3	7-13

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

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	Sulfur oxides, cerium oxides, nitrogen 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.
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. 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 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 incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store locked up. 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

Components	Туре	Value
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³ (thoracic particulate)
JS NIOSH: Pocket Guide to Chemical Haza	ards	
Components	Туре	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 Contami	nants (29 CFR 1910.1000)	
Components	Туре	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	Orange
Odor	Pungent
Odor threshold	No data available
рН	0.5
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	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	No data available	
Partition coefficient (n-octanol/water)	No data available	
Viscosity	No data available	
Explosive properties	No data available	
Oxidizing properties	No data available	
CTION 10: Stability and rea	activity	
Reactivity	May be corrosive to metals.	
Chemical stability	-	andling 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, chlorates, halides, hydrogen peroxide, metal compounds, nitrates, nitromethane, organic materials, oxidizing agents, perchlorates, phosphorous, strong reducing agents, and	
Hazardous decomposition products	sugars. No hazardous decomposition	products under normal conditions.
CTION 11: Toxicological in	formation	
Information on toxicological effe		
	skin/eye contact and ingestion	
Most important		. corrosive skin burns, deep ulcerations, and possibly permanen
symptoms/effects, acute and	scarring.	
delayed	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.	
	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.	
	pulmonary edema (chest pain May produce burns to lips, ora	
Acute toxicity	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding.
Acute toxicity Product	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding.
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Product	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data.	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua
Product CAN Solution (CAS Mixture)	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data.	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individu
Product CAN Solution (CAS Mixture) Acute	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data.	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individu
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individu <u>Acute Toxicity Estimate (ATE)</u> No data available
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data.	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua <u>Acute Toxicity Estimate (ATE)</u>
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat	shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua <u>Acute Toxicity Estimate (ATE)</u> No data available >5 mg/L
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua Acute Toxicity Estimate (ATE) No data available >5 mg/L >2000 mg/kg
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral LD ₅₀ Components	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individu <u>Acute Toxicity Estimate (ATE)</u> No data available >5 mg/L
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral LD ₅₀ Components Sulfuric acid (CAS 7664-93-9)	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat	, shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua <u>Acute Toxicity Estimate (ATE)</u> No data available >5 mg/L >2000 mg/kg
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Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral LD ₅₀ Components Sulfuric acid (CAS 7664-93-9) Acute Dermal	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat Species	shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individu. <u>Acute Toxicity Estimate (ATE)</u> No data available >5 mg/L >2000 mg/kg <u>Acute Toxicity Data</u>
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Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral LD ₅₀ Components Sulfuric acid (CAS 7664-93-9) Acute Dermal LD ₅₀ Inhalation	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat Species Rat	shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua Acute Toxicity Estimate (ATE) No data available >5 mg/L >2000 mg/kg Acute Toxicity Data No data available
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral LD ₅₀ Components Sulfuric acid (CAS 7664-93-9) Acute Dermal LD ₅₀ Inhalation LC ₅₀	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat Species	shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua Acute Toxicity Estimate (ATE) No data available >5 mg/L >2000 mg/kg Acute Toxicity Data
Product CAN Solution (CAS Mixture) Acute Dermal LD50 Inhalation LC50 Oral LD50 Components Sulfuric acid (CAS 7664-93-9) Acute Dermal LD50 Inhalation LC50 Oral Oral	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat Species Rat Rat	shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua Acute Toxicity Estimate (ATE) No data available >5 mg/L >2000 mg/kg Acute Toxicity Data No data available 0.375 mg/L (for aerosol mists)
Product CAN Solution (CAS Mixture) Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral LD ₅₀ Components Sulfuric acid (CAS 7664-93-9) Acute Dermal LD ₅₀ Inhalation LC ₅₀	pulmonary edema (chest pain May produce burns to lips, ora tract. Symptoms may include a This product is not classified a ingredient acute toxicity data. Species Rat Rat Species Rat	shortness of breath) may be delayed. Il cavity, upper airway, esophagus, and possibly the digestive abdominal pain, vomiting, burns, perforations, and bleeding. as an acute toxicity hazard. See below for product and individua Acute Toxicity Estimate (ATE) No data available >5 mg/L >2000 mg/kg Acute Toxicity Data No data available

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 Eval	uation of Carcinogenicity
Not regulated	
OSHA Specifically Regulated Su	ıbstances (29 CFR 1910.1001-1096)
Not regulated	
US National Toxicology Program	n (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 inform	ation
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
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
ΙΑΤΑ	
UN number	2796
UN Proper shipping name	Sulphuric acid
Class (Subsidiary risk)	8
Packing group	II
Special provisions	None
IMDG	
UN number	2796
UN Proper shipping name	Sulphuric acid
Class (Subsidiary risk)	8
Packing group	II
Environmental hazards	

Marine pollutant

Special provisions

EmS

Special precautions for user

F-A, S-B Read safety instructions, SDS, and emergency procedures before handling. This substance/mixture is not intended to be transported in bulk.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT hazard pictograms

IATA; IMDG hazard pictograms

CORROSI

SECTION 15:

US federal r	egulations
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Regulatory	y information

No

None

JS federal regulations		
CERCLA Hazardous Subst	ance (40 CFR 302.4)	
Chemical name	CAS number	Reportable Quantity
Sulfuric acid	7664-93-9	1000 lbs
SARA 302 Extremely Hazar	dous Substance (40 C	FR 355 Appendices A / B)
Chemical name	CAS number	_
Sulfuric acid	7664-93-9	
SARA 304 Emergency Rele	ase 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) Chemic	al Inventory	
All components are on the	-	ory list.
TSCA Section 12(b) Export		2
Not regulated	,	
Other federal regulations		
Clean Air Act (CAA) Sectio	n 112 Hazardous Air P	ollutante (HABs)
Not regulated		
5		
	n 112(r) Accidental Re	lease Prevention (40 CFR 68.130)
Not regulated		
Clean Water Act, Toxic and	Priority Pollutants (40	CFR 401.15 and CFR 423, Appendix
Not regulated		
Safe Drinking Water Act (SI	OWA)	

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 C	ommunity Right-to-Know Act
Chemical name	CAS number
Sulfuric acid	7664-93-9
Pennsylvania Worker and	Community Right-to-Know Act
Chemical name	CAS number
Sulfuric acid	7664-93-9
Rhode Island Right-to-Kno	ow Act
Chemical name	CAS number
Sulfuric acid	7664-93-9
CTION 16: Other inform	nation
NFPA Rating	-
Health hazard	2
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

Last revisions May 2019



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

Revision: 11/17/2021

CTION 1: Identification		
Product identifier		
Product name	Chromate Indicator	
Product number	R-0630; R-0630-PL	
Recommended use and restrictions	To be used in accordance with manufacturer instru manufacturer.	ctions 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	
CTION 2: Hazard(s) ident	ification	
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
Environmental hazards	Acute (short-term) aquatic toxicity hazard	Category 1
	Chronic (long-term) aquatic toxicity hazard	Category 1
Hazard pictograms		
Signal word	Danger	
Hazard statements	Causes skin irritation. Causes serious eye irritation defects. May cause an allergic skin reaction. Very t	
Precautionary statements		
Precautionary statements Prevention	Obtain special instructions before use. Do not hand read and understood. Wash skin thoroughly after h clothing/eye protection/face protection if contact is dust/fume/gas/mist/vapors/spray. Contaminated wo workplace. Avoid release into the environment.	andling. Wear protective gloves/protect likely to occur. Avoid breathing
-	read and understood. Wash skin thoroughly after h clothing/eye protection/face protection if contact is dust/fume/gas/mist/vapors/spray. Contaminated wo	andling. Wear protective gloves/protect likely to occur. Avoid breathing
Prevention	read and understood. Wash skin thoroughly after h clothing/eye protection/face protection if contact is dust/fume/gas/mist/vapors/spray. Contaminated wo workplace. Avoid release into the environment.	andling. Wear protective gloves/protect likely to occur. Avoid breathing ork clothing must not be allowed out of
Prevention	read and understood. Wash skin thoroughly after h clothing/eye protection/face protection if contact is dust/fume/gas/mist/vapors/spray. Contaminated wo workplace. Avoid release into the environment. IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OR RASH OCCURS: Get me contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for severa and easy to do. Continue rinsing.	andling. Wear protective gloves/protect likely to occur. Avoid breathing ork clothing must not be allowed out of edical advice/attention. Take off I minutes. Remove contact lenses if pre
Prevention	 read and understood. Wash skin thoroughly after h clothing/eye protection/face protection if contact is dust/fume/gas/mist/vapors/spray. Contaminated wo workplace. Avoid release into the environment. IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OR RASH OCCURS: Get me contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for severa and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: Get medical advisored advisored and the several advisored and the several advisored a	andling. Wear protective gloves/protect likely to occur. Avoid breathing ork clothing must not be allowed out of edical advice/attention. Take off I minutes. Remove contact lenses if pre ce/attention.
Prevention	read and understood. Wash skin thoroughly after h clothing/eye protection/face protection if contact is dust/fume/gas/mist/vapors/spray. Contaminated wo workplace. Avoid release into the environment. IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OR RASH OCCURS: Get me contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for severa and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: Get medical advis	andling. Wear protective gloves/protect likely to occur. Avoid breathing ork clothing must not be allowed out of t edical advice/attention. Take off I minutes. Remove contact lenses if pre ce/attention. ice/attention.

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

Hazards not otherwise classified Not applicable

SECTION 3: (Composition	/information	on on inared	lien

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 me	asures		

its

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

orion of a finelighting meas	
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 Fire hazard	substance or mixture 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 incompatibles. 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

Potassium chromate (CAS 7789-00-6) as Cr (VI)

Occupational exposure limits

US ACGIH Threshold Limit Values

Components	Туре	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		
<u>Components</u>	Туре	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	Туре	Value

ComponentsTypeValuePotassium chromate (CAS 7789-00-6) as Cr (VI)TWA0.005 mg/m³

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

Ceiling

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.

0.1 mg/m³

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

normation on basic physical and	chemical properties
Physical state	Liquid
Form	Liquid
Color	Light yellow
Odor	Odorless
Odor threshold	No data available
рН	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	No data available
(n-octanol/water)	
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
TION 10. Stability and read	

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	No hazardous decomposition products under normal conditions.

products

SECTION 11: Toxicological information

Information on likely routes of e Inhalation	xposure 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.
	Refer to section 4 of the SDS for most important symptoms and effects.
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 toxicity.

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-		
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		
Respiratory sensitization	No data available	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	May cause genetic defects.	
Carcinogenicity	.,	
IARC Monographs. Overall Evalu	uation of Carcinogenicity	
Chromium(VI) Compounds, Gro		
	Ibstances (29 CFR 1910.1001-1096	3)
Chromium(VI) Compounds; Car	•	1
US National Toxicology Progran	n (NTP) Report on Carcinogens	
Chromium(VI) Compounds, Kno	own 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	
CTION 12: Ecological information	ation	
Ecotoxicity	Very toxic to aquatic life, with long-la	asting effects.
Potassium Chromate (CAS 7789-00	D-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	No data available	
Bioaccumulative potential	No data available	
Mobility in soil	No data available	
Other adverse effects	Large or frequent spills can have a l	harmful or damaging effect on the environment.
CTION 13: Disposal consider	ations	
residue, follow label warnings even af Dispose of contents/container in acco	ter container is emptied. This materia rdance with local/regional/national/int	disposal site. Since emptied containers may retain produ al and its container must be disposed of in a safe manne ternational regulations.
CTION 14: Transport informa	tion	
DOT		
UN number	3082	
UN Proper shipping name	Environmentally hazardous	substances, liquid, N.O.S. (Potassium chromate)
Reportable Quantity	10lbs, Potassium chromate	
	9	
Class (Subsidiary risk)	9	
Class (Subsidiary risk) Label(s)	9 9	

Packaging exceptions	155
Packaging, non-bulk	203
ΙΑΤΑ	
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

CERCLA Hazardous Substanc	o (40 CEP 302 4)		
Chemical name	CAS number	Reportable Quantity	
Potassium Chromate	7789-00-6	10 lbs	
SARA 302 Extremely Hazardov Not regulated	us Substance (40 CFR 3	55 Appendices A / B)	
SARA 304 Emergency Release Not regulated	e Notification		
SARA 311/312 Hazardous Che	mical		
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 In	nventory		
All components are on the U.	S. EPA TSCA Inventory lis	t.	
TSCA Section 12(b) Export No	otification (40 CFR 707, S	ubpt. D)	
Chemical name	CAS number		
Potassium Chromate	7789-00-6		

Chemical name	CAS number
Potassium Chromate	7789-00-6
Clean Air Act (CAA) Section 11	12(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated	
Clean Water Act, Toxic and Pri	iority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)
Chemical name	CAS number
Potassium Chromate	7789-00-6
Safe Drinking Water Act (SDW	A)
Chemical name	CAS number
Potassium Chromate	7789-00-6
JS state regulations	
California Safe Drinking Water	and Toxic Enforcement Act of 1986 (California Proposition 65)
Chemical name	CAS number
Potassium Chromate	7789-00-6
State of California to cause ca www.P65Warnings.ca.gov.	expose you to Potassium chromate (hexavalent chromium compound), which is known to ancer and birth defects or other reproductive harm. For more information go to
State of California to cause ca	ancer and birth defects or other reproductive harm. For more information go to
State of California to cause ca www.P65Warnings.ca.gov. Massachusetts Right-to-Know Chemical name	Act <u>CAS number</u>
State of California to cause ca www.P65Warnings.ca.gov. Massachusetts Right-to-Know Chemical name Potassium Chromate	Act <u>CAS number</u> 7789-00-6
State of California to cause ca www.P65Warnings.ca.gov. Massachusetts Right-to-Know Chemical name Potassium Chromate New Jersey Worker and Comm	Act <u>CAS number</u> 7789-00-6 Act CAS number
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Disclaimer

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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.



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

CTION 1: Identification	
Product identifier	
Product name	Ferroin Indicator
Product number	R-0819; R-0819-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
CTION 2: Hazard(s) identified	cation
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 neede
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
Water	Dihydrogen oxide	7732-18-5	80-100
1,10-Phenanthroline monohydrate	o-Phenanthroline monohydrate	5144-89-8	1-5
Nonhazardous 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

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

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, nitrogen oxides. Other irritating fumes and smoke.	
Advice for firefighters	
Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.	
Firefighting Use water spray or fog for cooling exposed containers. equipment/instructions	
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection	on.
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 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	Dark Red
Odor	Odorless
Odor threshold	No data available
рН	3.2
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.
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	Acids and strong oxidizing agents.

Information on toxicological effect		_	
Likely routes of exposure are sk Most important symptoms/effects, acute and	 skin/eye contact and ingestion. Direct skin contact may cause slight or mild transient irritation. Symptoms may include redner and itching. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging tearing, redness, swelling, and blurred vision. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. This product is not classified as an acute toxicity hazard. See below for product and individuing redient acute toxicity data. 		
delayed			
Acute toxicity			
Product	Species	Acute Toxicity Estimate (ATE)	
Ferroin Indicator (CAS Mixture) Acute	<u> </u>		
Dermal			
	Rat	No data available	
Inhalation			
	Rat	No data available	
Oral LD₅₀	Pot	> 2000 malka	
Components	Rat Species	>2000 mg/kg Acute Toxicity Data	
1,10-Phenanthroline monohydrate	•		
Acute			
Dermal			
	Rat	No data available	
Inhalation			
LC ₅₀	Rat	No data available	
Oral			
LD ₅₀	Rat	132 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 Eval Not regulated	uation of Carcinogenicity		
OSHA Specifically Regulated Su Not regulated	ubstances (29 CFR 1910.100	1-1096)	
US National Toxicology Program	n (NTP) Report on Carcinoge	ens	
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		

ECTION 12: Ecological inforr	mation
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.
ECTION 13: Disposal conside	erations
residue, follow label warnings even	sealed containers at a licensed waste disposal site. Since emptied containers may retain produc after container is emptied. This material and its container must be disposed of in a safe manner. cordance with local/regional/national/international regulations.
ECTION 14: Transport inform	nation
DOT	Not regulated as dangerous goods
ΙΑΤΑ	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
ECTION 15: Regulatory infor	
US federal regulations	
CERCLA Hazardous Substanc	e (40 CFR 302.4)
Not regulated	
SARA 302 Extremely Hazardou	us Substance (40 CFR 355 Appendices A / B)
Not regulated	
SARA 304 Emergency Release	Notification
Not regulated	
SARA 311/312 Hazardous Che	mical
Chemical name	CAS number
1,10-Phenanthroline monohyc	
SARA 313 (TRI reporting)	
Not regulated	
TSCA Section 8(b) Chemical Ir	nventory
All components are on the U.S	-
•	tification (40 CFR 707, Subpt. D)
Not regulated	
Other federal regulations	
-	12 Hazardous Air Pollutants (HAPs)
Not regulated	
Clean Air Act (CAA) Section 1	12(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated	
C C	iority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)
Not regulated	
Safe Drinking Water Act (SDW Not regulated	A)
-	
US state regulations	
-	r and Toxic Enforcement Act of 1986 (California Proposition 65)
Not regulated	
Massachusetts Right-to-Know Not regulated	^r Act
New Jersey Worker and Comn	nunity 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

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Issue date:

May 2015

Last revisions

May 2019



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

S

Revision: 06/25/2021

CTION 1: Identification		Revision: 06/2	5/2
Product identifier			
Product name	Hardness Buffer		
Product number	R-0619; R-0619B; R-0619LB; R-0619E	-PI · R-0619I B-PI	
Recommended use and		nce with manufacturer instructions or under the di	rec
restrictions	guidance of the manufacturer.		100
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Local: (410) 472-4340 – 8am – 5pm ES Toll-free: (800) 837-8548 – 8am – 5pm		
Emergency phone number			
CHEMTREC, United States	1-800-424-9300 – 24-hour service		
CHEMTREC, International	+1 703-741-5970 – 24-hour service		
CTION 2: Hazard(s) Ident	ification		
Physical hazards	Not applicable		
Health hazards	Acute toxicity, oral	Category 4	
	Eye damage/irritation	Category 1	
	Skin corrosion/irritation	Category 1C	
Environmental hazards	Acute aquatic toxicity	Category 1	
Signal word	Danger		
Hazard statements	Harmful if swallowed. Causes severe s aquatic life.	kin burns and serious eye damage. Very toxic to	
Precautionary statements			
Prevention		o not eat, drink, or smoke when using this produc tective gloves/protective clothing/eye protection/fa void release into the environment.	
Response	and easy to do. Continue rinsing. Imme SWALLOWED: Rinse mouth. Do NOT center if you feel unwell. IF ON SKIN (clothing. Rinse skin with water. Wash of	r for several minutes. Remove contact lenses if p diately call a physician or poison control center. I nduce vomiting. Call a physician or poison contro DR HAIR): Immediately take off all contaminated ontaminated clothing before reuse. IF INHALED: omfortable for breathing. Immediately call a physi	F D
Storage	Store locked up. Keep tightly capped.	Store out of direct sunlight between 36°F–85°F.	
Disposal	Dispose of contents/container in accord regulations.	lance with local/regional/national/international	
Hazards not otherwise classified	Not applicable		
CTION 3: Composition/In	formation on Ingredients		
Mixture			
Chemical name	Common name and synonyms	CAS number % w/w	

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

Extinguishing metua	
Suitable extinguishing media	Water fog, foam, dry chemical powder, carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.
Specific hazards arising from the Fire hazard	e substance or mixture 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.

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	Туре	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 I	Hazards		
Components	Туре	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 Cont	aminants (29 CFR 1910.1000)		
Components	Туре	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
рН	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

	N I I I I I I I I I I	
Decomposition temperature	No data available No data available	
Flammability (solid, gas) 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	
CTION 10: Stability and R	leactivity	
Reactivity	Hazardous reactions will not	occur under normal conditions of use, storage, and transport.
Chemical stability	Stable under recommended I	handling and storage conditions (refer to section 7 of the SDS).
Possibility of hazardous reactions	No dangerous reaction know	n under conditions of normal use.
Conditions to avoid	Contact with incompatible ma	aterials. Do not use in areas without adequate ventilation.
Incompatible materials	Strong acids. Strong oxidizing	g agents. Halogens, nitrates, metals, and metal compounds.
Hazardous decomposition products	No hazardous decomposition	n products known.
CTION 11: Toxicological	Information	
Information on likely routes of Inhalation		ict. Use in a well-ventilated area. Substance can be absorbed in aerosol or vapor.
Skin contact	Protect exposed skin from co	ontact. Use caution to avoid splashes.
Eye contact	Avoid close eye contact; Use	e 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		if swallowed. Corrosive skin/eye damage may occur. 6 for most important symptoms and effects.
Delayed and immediate effects	and chronic effects from sho	rt- and long-term exposure
Acute toxicity	mixture has been calculated	•
	0% of the mixture consists of	ingredient(s) with unknown acute oral toxicity.
Product acute toxicity estimate	e (ATE)	
ATEmix (Oral)	1065 mg/kg	
ATEmix (Dermal)	No data available	
ATEmix (Inhalation)	No data available	
•		
Component(s)	Species	Acute toxicity data
Component(s) Ammonium chloride (CAS 121	Species 25-02-9)	Acute toxicity data
Ammonium chloride (CAS 121		
Ammonium chloride (CAS 121 LD50 (Oral)	25-02-9) Rat	1650 mg/kg (Source: NIOSH)
Ammonium chloride (CAS 121 LD50 (Oral) LD50 (Dermal)	25-02-9) Rat Not applicable	1650 mg/kg (Source: NIOSH) No data available
Ammonium chloride (CAS 121 LD50 (Oral) LD50 (Dermal) LC50 (Inhalation)	25-02-9) Rat Not applicable Not applicable	1650 mg/kg (Source: NIOSH)
Ammonium chloride (CAS 121 LD50 (Oral) LD50 (Dermal) LC50 (Inhalation) Ammonium hydroxide (CAS 13	25-02-9) Rat Not applicable Not applicable 336-21-6)	1650 mg/kg (Source: NIOSH) No data available No data available
Ammonium chloride (CAS 121 LD50 (Oral) LD50 (Dermal) LC50 (Inhalation) Ammonium hydroxide (CAS 13 LD50 (Oral)	25-02-9) Rat Not applicable Not applicable 336-21-6) Rat	1650 mg/kg (Source: NIOSH) No data available No data available 350 mg/kg (Source: NIOSH)
Ammonium chloride (CAS 121 LD50 (Oral) LD50 (Dermal) LC50 (Inhalation) Ammonium hydroxide (CAS 13	25-02-9) Rat Not applicable Not applicable 336-21-6)	1650 mg/kg (Source: NIOSH) No data available 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 E	valuation of Carcinogenicity	
Not listed		
OSHA Specifically Regulated	Substances (29 CFR 1910.1001-109	6)
Not regulated		
US National Toxicology Prog	ram (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 Info	rmation	
Ecotoxicity	This product is classified as environn	nentally hazardous.
Ammonium chloride (CAS 12	125-02-9)	
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 121	35-76-1)	
Carp	48hr LC50 = 4.4 – 5.9 mg/L	
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 h	armful 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	2672	
UN Proper shipping name	Ammonia solution, 10-35%	
Reportable Quantity	1000 lbs, Ammonium hydroxide	
Class (Subsidiary risk)	8	
Label(s)	8	
Packing group	111	
Special provisions	336, IB3, IP8, T7, TP2	

Packaging exceptions	154
Packaging, non-bulk	203
ΙΑΤΑ	
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 apparding to	This substance (mixture is not intended to be transported in bulk

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT hazard pictograms

IATA/IMDG hazard pictograms

Read safety instructions, SDS, and emergency procedures before handling. This substance/mixture is not intended to be transported in bulk.



SECTION 15: Regulatory Information

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 Not regulated	s Substance (40 CFR 355 Appen	dices A / B)
SARA 304 Emergency Release Not regulated	Notification	
SARA 311/312 Hazardous Chem	nical	
<u>.</u>		
Chemical name	CAS number	
Chemical name Ammonium chloride	CAS number 12125-02-9	
Ammonium chloride	12125-02-9	
Ammonium chloride Ammonium hydroxide Ammonium sulfide	12125-02-9 1336-21-6	
Ammonium chloride Ammonium hydroxide	12125-02-9 1336-21-6	

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

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 Com	munity 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 Co	mmunity 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	
ION 16: Other Informati	on	
FPA Rating		
Health hazard	3	
Fire hazard	0	
Reactivity	0	

Specific Disclaimer

SFCT

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Issue date:

N/A

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.



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

Revision: 03/02/2021

CTION 1: Identification Product identifier		
Product name	Fluoride Masking Agent	
Product number	R-0805; R-0805-PL	
Recommended use and restrictions	To be used in accordance with manufacturer instruct manufacturer.	tions 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	
CTION 2: Hazard(s) identified	cation	
Physical hazards	Not applicable	
Health hazards	Carcinogenicity	Category 1A
	Sensitization, skin	Category 1
	Specific target organ toxicity, repeat exposure	Category 1
Environmental hazards	Not currently regulated by OSHA. For additional info	rmation, refer to section 12 of the SDS.
Signal word	Danger	
Hazard statements	May cause cancer. May cause allergic skin reaction. prolonged or repeated exposure.	Causes damage to organs through
Precautionary statements		
Prevention	Obtain special instructions before use. Do not handle read and understood. Wear protective gloves/protec if contact is likely to occur. Contaminated work clothi workplace. Do not breathe dust/fumes/gas/mists/vap handling. Do not eat, drink, or smoke when using thi	tive clothing/eye protection/face protecti ng must not be allowed out of the pors/spray. Wash skin thoroughly after
Response	IF EXPOSED OR CONCERNED: Get medical advice of water. IF SKIN IRRITATION OR RASH OCCURS contaminated clothing before reuse. Get medical advice	: Get medical advice/attention. Wash
Storogo	Store out of direct sunlight between 36°F–85°F. Stor place. Keep container tightly closed.	e locked up. Store in a well-ventilated
Storage		
Disposal	Dispose of contents/container in accordance with loc regulations.	cal/regional/national/international
-	•	cal/regional/national/international

IVI	inture			
C	hemical name	Common name and synonyms	CAS number	% w/w
W	/ater	Dihydrogen oxide	7732-18-5	98.0
Be	eryllium sulfate tetrahydrate	Beryllium sulphate tetrahydrate	7787-56-6	2.0

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. Use pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth if individual inhaled the substance.

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. Call a physician or poison control center immediately.

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. Give oxygen or artificial respiration if needed. Use pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth if individual ingested the substance.

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 mediaSuitable extinguishing mediaUse extinguishing media appropriate for surrounding fire.Unsuitable extinguishing mediaDo 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 Hazardous gases, 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 Use water spray or fog for cooling exposed containers. equipment/instructions	
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection	۱.
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 mists or vapors. 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. Stop leak if it can be done without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material where this is possible. 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 mists or vapors. 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 out of direct sunlight between 36°F–85°F. Store locked up. Store in a well-ventilated place. Keep container tightly closed. 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	Туре	Value
Beryllium sulfate tetrahydrate (CAS 7787-56-6)	TWA	0.05 μg/m³ (skin)
US NIOSH: Pocket Guide to Chemical Hazards		
Components	Туре	Value
Beryllium sulfate tetrahydrate (CAS 7787-56-6)	Ceiling	0.5 μg/m³
US OSHA Table Z-1 Limits for Air Contaminants (2 Components	9 CFR 1910.1000) 	Value
Beryllium sulfate tetrahydrate (CAS 7787-56-6)	TWA	2 μ g/m ³
Beryllium sulfate tetrahydrate (CAS 7787-56-6)	Ceiling	5 μg/m³
	•	

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	Not applicable
рН	2.8
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available

Flash point	No dete eveilable
	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
CTION 10: Stability and react	tivity
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 oxidizing agents.
Hazardous decomposition	No hazardous decomposition products under normal use.
	rmation
CTION 11: Toxicological info	
CTION 11: Toxicological info	s sin/eye contact and ingestion.
Most important	s t in/eye contact and ingestion. Direct skin contact may cause irritation. Symptoms may include redness and itching.
CTION 11: Toxicological info Information on toxicological effect Likely routes of exposure are sk Most important symptoms/effects, acute and	s tin/eye contact and ingestion. 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.
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• •		ans through prolonged or repeated exposure
Specific target organ toxicity (repeated exposure)	Causes damage to org	
Aspiration hazard	No data available	
ECTION 12: Ecological inform	nation	
Ecotoxicity	This product is not clas	ssified 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.
CTION 13: Disposal conside	erations	
	after container is emptied	ensed waste disposal site. Since emptied containers may retain produc . This material and its container must be disposed of in a safe manner. al/national/international regulations.
ECTION 14: Transport inform		
DOT	Not regulated as dange	erous goods
ΙΑΤΑ	Not regulated as dange	erous goods
IMDG	Not regulated as dange	erous goods
ECTION 15: Regulatory inform	mation	
US federal regulations		
CERCLA Hazardous Substance	e (40 CFR 302.4)	
Chemical name	CAS number	Reportable Quantity
Beryllium sulfate tetrahydrate	7787-56-6	10 lbs
Borymann banato totranyarato	1101 00 0	
SARA 302 Extremely Hazardou	is Substance (40 CER 3)	55 Appendices A / B)
SARA 302 Extremely Hazardou Not regulated	us Substance (40 CFR 3	55 Appendices A / B)
Not regulated	·	55 Appendices A / B)
Not regulated SARA 304 Emergency Release	·	55 Appendices A / B)
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US state regulations

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

0

N/A

Chemical name	CAS number
Beryllium sulfate tetrahydrate	7787-56-6

WARNING: This product can expose you to Beryllium sulfate tetrahydrate (beryllium compound), which is known to the State of California to cause cancer. For more information go to <u>www.P65Warnings.ca.gov</u>.

Massachusetts Right-to-Know Ac	t
Chemical name	CAS number
Beryllium sulfate tetrahydrate	7787-56-6
New Jersey Worker and Commun	ity Right-to-Know Act
Chemical name	CAS number
Beryllium sulfate tetrahydrate	7787-56-6
Pennsylvania Worker and Commu	inity Right-to-Know Act
Chemical name	CAS number
Beryllium sulfate tetrahydrate	7787-56-6
Rhode Island Right-to-Know Act	
Chemical name	CAS number
Beryllium sulfate tetrahydrate	7787-56-6
CTION 16: Other information	
NFPA Rating	
Health hazard	3
Fire hazard	0

Specific Disclaimer

Reactivity

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:

03/02/2021

Revision information:

Identification: Emergency phone number

Composition/information on ingredients: %w/w



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

SECTION 1: Identification	
Product identifier Product name	Hardness Indicator Powder
Product number	R-0620; R-0620B; R-0620LB; R-0620-PL; R-0620B-PL; R-0620LB-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) Identifie	cation
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
Sucrose	Sugar	57-50-1	80-100
Nonhazardous and other components below reportable level	Not applicable s	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

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.

ECTION 5: Firefighting Meas	ures
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. 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

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

Туре	Value
TWA	10 mg/m ³
zards	
Туре	Value
TWA	10 mg/m ³ (Total)
TWA	5 mg/m ³ (Resp)
	TWA zards Type

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

Components	Туре	Value
Sucrose (CAS 57-50-1)	TWA	15 mg/m ³ (Total)
Sucrose (CAS 57-50-1)	TWA	5 mg/m³ (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 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	Solid
Form	Powder
Color	Purple
Odor	Odorless
Odor threshold	No data available
рН	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.	
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	Nitric acid, oxidizers, and sulfuric acid.	
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.	

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SECTION 11: Toxicological Information

Information on toxicological effects

Most important symptoms/effects, acute and	kin/eye contact and ingestion. Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.	
delayed	Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging tearing, redness, swelling, and blurred vision.	
	Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.	
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.	
Acute toxicity	This product is not classified as an acute toxicity hazard.	
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 Eval	uation of Carcinogenicity	
Not regulated		
OSHA Specifically Regulated Su	ubstances (29 CFR 1910.1001-1096)	
Not regulated		
US National Toxicology Program	n (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	
CTION 12: Ecological Inform	ation	
Ecotoxicity	This product is not classified as environmentally hazardous.	
Persistence and degradability	No data available	
	No data available	
Bioaccumulative potential		
Mobility in soil	No data available	

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.

CTION 14: Transport Infor	mation
DOT	Not regulated as dangerous goods
ΙΑΤΑ	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
CTION 15: Regulatory Info	ormation
US federal regulations	
CERCLA Hazardous Substar Not regulated	ıce (40 CFR 302.4)
SARA 302 Extremely Hazard Not regulated	ous Substance (40 CFR 355 Appendices A / B)
SARA 304 Emergency Relea Not regulated	se Notification
SARA 311/312 Hazardous Ch Not regulated	nemical
SARA 313 (TRI reporting) Not regulated	
•	I Inventory J.S. EPA TSCA Inventory list. Notification (40 CFR 707, Subpt. D)
Other federal regulations Clean Air Act (CAA) Section Not regulated	112 Hazardous Air Pollutants (HAPs)
Clean Air Act (CAA) Section Not regulated	112(r) Accidental Release Prevention (40 CFR 68.130)
Clean Water Act, Toxic and F	Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)
Not regulated	
Safe Drinking Water Act (SD Not regulated	WA)
US state regulations	
-	er and Toxic Enforcement Act of 1986 (California Proposition 65)
Massachusetts Right-to-Kno Not regulated	w Act
New Jersey Worker and Con Not regulated	nmunity Right-to-Know Act
Pennsylvania Worker and Co	ommunity Right-to-Know Act
Chemical name	CAS number
Sucrose	57-50-1
Rhode Island Right-to-Know	Act
Chemical name	CAS number
Sucrose	57-50-1

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 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

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	Hardness Reagent
Product number	R-0683; R-0683-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) Identifie	cation
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
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	1-5

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

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.

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SECTION 5: Firefighting Measure	ures
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 s	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. 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.
CECTION C. Assidental Dalass	

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 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
pН	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 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	Oxidizing agents and metals.
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.

SECTION 11: Toxicological Information

Likely routes of exposure are sl Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include rednes and itching.
	Direct eye contact may cause slight or mild transient irritation. Symptoms may include stingin tearing, redness, swelling, and blurred vision.
	Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Acute toxicity	This product is not classified as an acute toxicity hazard.
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 Eval Not regulated	uation of Carcinogenicity
OSHA Specifically Regulated Su Not regulated	ubstances (29 CFR 1910.1001-1096)
US National Toxicology Program Not regulated	n (NTP) Report on 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
CTION 12: Ecological Inform	ation
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.
CTION 13: Disposal Conside	rations
residue, follow label warnings even a	ealed containers at a licensed waste disposal site. Since emptied containers may retain produ fter container is emptied. This material and its container must be disposed of in a safe manner ordance with local/regional/national/international regulations.
CTION 14: Transport Informa	ation
DOT	Not regulated as dangerous goods
ΙΑΤΑ	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
CTION 15: Regulatory Inform	
US federal regulations	
-	(40 CER 302 4)
CERCLA Hazardous Substance	(40 OFN 302.4)

Not regulated

SARA 304 Emergency Re	ease Notification
Not regulated	
SARA 311/312 Hazardous	s Chemical
Not regulated	
SARA 313 (TRI reporting)	
Not regulated	
TSCA Section 8(b) Chem	ical Inventory
All components are on t	he U.S. EPA TSCA Inventory list.
TSCA Section 12(b) Expo	ort Notification (40 CFR 707, Subpt. D)
Not regulated	
Other federal regulations	
Clean Air Act (CAA) Sect	ion 112 Hazardous Air Pollutants (HAPs)
Not regulated	
Clean Air Act (CAA) Sect	ion 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated	
Clean Water Act, Toxic a	nd 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	d Community Right-to-Know Act
Not regulated	
Rhode Island Right-to-Kr	now Act
Not regulated	
SECTION 16: Other Inform	hation
NFPA Rating	
Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A
Disalationan	

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

Issue date:

May 2015

Last revisions

July 2019



SAFETY DATA SHEET

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

SECTION 1: Identification	
Product identifier Product name	Methyl Orange Indicator
Product number	R-0637; R-0637-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) Identifie	cation
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
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous 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

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: Firefig	ghting Measure	es
Extinguishing media Suitable extinguish		se extinguishing media appropriate for surrounding fire.
Unsuitable extingu	ishing media De	o not use a heavy water stream. Use of heavy stream of water may spread fire.
Specific hazards ari	ising from the sub	stance or mixture
Fire hazard	N	ot flammable
Explosion hazard	N	ot explosive
Reactivity	H	azardous reactions will not occur under normal conditions.
Hazardous combu	•	arbon oxides, nitrogen oxides, sulfur oxides, sodium oxides. Other irritating fumes and noke.
Advice for firefighte	ers	
Precautionary mea	asures Ex	xercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instruct		se water spray or fog for cooling exposed containers.
Protection during f	irefighting De	o not enter fire area without proper protective equipment, including respiratory protection.
Other information	R	efer 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 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, orange
Odor	No data available
Odor threshold	No data available
рН	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.
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.
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.

SECTION 11: Toxicological Information

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kin/eye contact and ingestion. Direct skin contact may cause slight or mild transient irritation. Symptoms may include rednes and itching.
Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging tearing, redness, swelling, and blurred vision.
Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.
Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
This product is not classified as an acute toxicity hazard.
No data available
uation of Carcinogenicity
ubstances (29 CFR 1910.1001-1096)
n (NTP) Report on Carcinogens
No data available
ation
This product is not classified as environmentally hazardous.
No data available
No data available
No data available
Large or frequent spills can have a harmful or damaging effect on the environment.
rations
ealed containers at a licensed waste disposal site. Since emptied containers may retain produc fter container is emptied. This material and its container must be disposed of in a safe manner. ordance with local/regional/national/international regulations.
ntion
Not regulated as dangerous goods
Not regulated as dangerous goods
Not regulated as dangerous goods
nation
(40 CFR 302.4)
Substance (40 CFR 355 Appendices A / B)

SARA 304 Emergency Release Notification

Not regulated	Not regulated				
SARA 311/312 Hazardo	SARA 311/312 Hazardous Chemical				
Not regulated	Not regulated				
SARA 313 (TRI reporti	SARA 313 (TRI reporting)				
Not regulated	Not regulated				
TSCA Section 8(b) Cho	emical Inventory				
	n the U.S. EPA TSCA Inventory li				
	cport Notification (40 CFR 707, S	Subpt. D)			
Not regulated					
Other federal regulations					
	ection 112 Hazardous Air Pollut	ants (HAPs)			
Not regulated					
Clean Air Act (CAA) Se Not regulated	ection 112(r) Accidental Release	Prevention (40 CFR 68.130)			
Clean Water Act, Toxic	and Priority Pollutants (40 CFF	R 401.15 and CFR 423, Appendix A)			
Not regulated					
Safe Drinking Water A	ct (SDWA)				
Not regulated					
US state regulations					
California Safe Drinkin	ng Water and Toxic Enforcemen	t Act of 1986 (California Proposition 65)			
Not regulated					
Massachusetts Right-	to-Know Act				
Not regulated					
New Jersey Worker an	d Community Right-to-Know A	ot			
Not regulated					
Pennsylvania Worker	and Community Right-to-Know	Act			
Not regulated					
Rhode Island Right-to-	-Know Act				
Not regulated					
SECTION 16: Other Info	rmation				
NFPA Rating Health hazard	0				
Fire hazard	0				
Reactivity	0				
Specific	N/A				

Disclaimer

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Issue date:

May 2015

Last revisions December 2019



SAFETY DATA SHEET

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

Product name	Long Range Indicator		
Product number	R-1003U; R-1003U-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		
CTION 2: Hazard(s) identifi	cation		
Physical hazards	Flammable liquids	Category 2	
Health hazards	Eye damage/irritation	Category 2A	
	Carcinogenicity	Category 1B	
	Germ cell mutagenicity	Category 2	
	Reproductive toxicity	Category 2	
	Specific target organ toxicity, single exposure	Category 3	
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS		
Signal word	Danger		
Hazard statements	Highly flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. May cause cancer. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child.		
nazaru statements	irritation. May cause drowsiness or dizziness. May ca	ause cancer. Suspected of causing	
Precautionary statements	irritation. May cause drowsiness or dizziness. May ca	ause cancer. Suspected of causing	
	irritation. May cause drowsiness or dizziness. May ca	ause cancer. Suspected of causing e unborn child. e until all safety precautions have beer pen flames/hot surfacesNo smoking er and receiving equipment. Use pols. Take precautionary measures ective clothing/eye protection/face oughly after handling. Avoid breathing	
Precautionary statements	irritation. May cause drowsiness or dizziness. May cause drowsiness or drowsine	ause cancer. Suspected of causing e unborn child. e until all safety precautions have beer pen flames/hot surfacesNo smoking er and receiving equipment. Use pols. Take precautionary measures ective clothing/eye protection/face oughly after handling. Avoid breathing rs or in a well-ventilated area. e/attention. IF INHALED: Remove pers a physician or poison center if you fee i all contaminated clothing. Rinse skin everal minutes. Remove contact lense RITATION PERSISTS: Get medical	
Precautionary statements Prevention	irritation. May cause drowsiness or dizziness. May cause drowsiness or dizziness or dizziness or dizziness. May cause drowsine drowsines drowsines drowsiness or dizziness or dizziness. May cause drowsine drowsines drowsines drowsiness or dizziness or dizziness. May cause drowsiness or drowsines	ause cancer. Suspected of causing e unborn child. e until all safety precautions have been pen flames/hot surfacesNo smoking er and receiving equipment. Use pols. Take precautionary measures ective clothing/eye protection/face oughly after handling. Avoid breathing rs or in a well-ventilated area. e/attention. IF INHALED: Remove pers a physician or poison center if you fee f all contaminated clothing. Rinse skin everal minutes. Remove contact lense RITATION PERSISTS: Get medical sistant foam, carbon dioxide, dry chem	
Precautionary statements Prevention Response	irritation. May cause drowsiness or dizziness. May cause drowsiness or dizziness. May cause drowsiness or dizziness. May cause defects. Suspected of damaging fertility or the Obtain special instructions before use. Do not handle read and understood. Keep away from heat/sparks/ckeep container tightly closed. Ground/Bond container explosion-proof equipment. Use only non-sparking to against static discharge. Wear protective gloves/prot protection if contact is likely to occur. Wash skin thor dust/fumes/gas/mists/vapors/spray. Use only outdoo IF EXPOSED OR CONCERNED: Get medical advice to fresh air and keep comfortable for breathing. Call unwell. IF ON SKIN (OR HAIR): Immediately take off water. IF IN EYES: Rinse cautiously with water for sepresent and easy to do. Continue rinsing. IF EYE IRI advice/attention. IN CASE OF FIRE: Use alcohol-respowder, or water fog to extinguish. Store in well-ventilated place. Keep cool. Keep tightly	ause cancer. Suspected of causing e unborn child. e until all safety precautions have been pen flames/hot surfacesNo smoking er and receiving equipment. Use pols. Take precautionary measures ective clothing/eye protection/face oughly after handling. Avoid breathing rs or in a well-ventilated area. e/attention. IF INHALED: Remove per a physician or poison center if you fee f all contaminated clothing. Rinse skin everal minutes. Remove contact lense RITATION PERSISTS: Get medical istant foam, carbon dioxide, dry chem y capped. Store out of direct sunlight	

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	15-40
Isopropyl alcohol	Isopropanol	67-63-0	60-80
Phenolphthalein	3,3-Bis(4-hydroxyphenyl)-1(3H)- isobenzofuranone	77-09-8	0.01-0.1
Nonhazardous and other components below reportable	Not applicable	Not applicable	0.1-1

levels

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

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	Alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.
Specific hazards arising from the s	substance or mixture
Fire hazard	Flammable liquid and vapor. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can be electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential static discharge, use proper bonding and grounding procedures. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors.
Explosion hazard	Vapors may form explosive mixtures with air. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors.
Reactivity	Hazardous reactions will not occur under normal conditions.
Hazardous combustion products	Carbon oxides, nitrogen 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/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 contaminated area. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. 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. Vapors may form explosive mixtures with air. Keep away from sources of ignition. NO SMOKING. Do not handle, store, or open near an open flame, sources of heat or sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. 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

Store in well-ventilated place. Keep cool. 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

Components		Туре	Value	
Isopropanol (CAS 67-63-0)		STEL	980 mg/m ³	
Isopropanol (CAS 67-63-0)		TWA	492 mg/m ³	
US NIOSH: Pocket Guide to Che	emical Hazards			
Components		Туре	Value	
Isopropanol (CAS 67-63-0)		ST	1225 mg/m ³	
Isopropanol (CAS 67-63-0)		TWA	980 mg/m ³	
Isopropanol (CAS 67-63-0)		IDLH	4920 mg/m ³	
US OSHA Table Z-1 Limits for A	ir Contaminants (2	29 CFR 1910.1000)		
Components		Туре	Value	
Isopropanol (CAS 67-63-0)		PEL	980 mg/m ³	
Biological limit values				
ACGIH Biological Exposure India	es			
Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/L	Acetone	Urine	End of shift at end of workweek
Exposure controls				
Appropriate engineering controls	should be matche ventilation, or othe exposure limits. If	d to conditions. If applica er engineering controls to exposure limits have not	ble, use process end maintain airborne le been established, m	uld be used. Ventilation rates closures, local exhaust vels below recommended aintain airborne levels to an st be available when handling
	and product			
Personal protective equipment				

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

Wear appropriate protective clothing if contact is likely to occur.

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	Dark green
Odor	Alcohol
Odor threshold	90 mg/m ³
pH	No data available
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	180.4°F (82.3°C)
Flash point	53°F (12°C) Closed cup
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Flammable
Upper Flammability Limit	UEL 12% v/v 200° F (93°C)
Lower Flammability Limit	LEL 2% v/v 200° F (93°C)
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	Moderately explosive when exposed to heat or flame.
Oxidizing properties	No data available
TION 10: Stability and reac	tivity
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	Heat, sparks, open flames, and other ignition sources. Temperatures exceeding the flash point. Direct sunlight. Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Acetaldehyde, acids, chlorine, ethylene oxide, halogenated hydrocarbons, isocyanates, nitrites, organics, strong acids, strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.
CTION 11: Toxicological info	ormation
Information on toxicological effect	ts
Likely routes of exposure are sl	
Most important	Direct skin contact may cause irritation. Symptoms may include redness and itching.
symptoms/effects, acute and delayed	Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

	include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. May cause cancer. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child.
Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	No data available
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 Eval Phenolphthalein; Group 2B-Pos	
OSHA 13 Carcinogens Not regulated	
US National Toxicology Program	n (NTP) Report on Carcinogens nticipated to be a human carcinogen
Reproductive toxicity	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness. May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available
SECTION 12: Ecological inform	ation
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	1219
UN Proper shipping name	Isopropyl alcohol solution
Reportable Quantity	None
Class (Subsidiary risk)	3
Label(s)	3
Packing group	II
Special provisions	IB2, T4, TP1
Packaging exceptions	4b, 150
Packaging, non-bulk	202
ΙΑΤΑ	
UN number	1219
UN Proper shipping name	Isopropyl alcohol solution
Class (Subsidiary risk)	3
Packing group	II

Special provisions	A180
IMDG	
UN number	1219
UN Proper shipping name	Isopropyl alcohol solution
Class (Subsidiary risk)	3
Packing group	II
Environmental hazards	
Marine pollutant	No
Special provisions	None
EmS	F-E, S-D
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

DOT hazard pictograms

This substance/mixture is not intended to be transported in bulk.



IATA; IMDG hazard pictograms

SE

	▼	
ECTION 15: Regulatory informati	on	
US federal regulations		
CERCLA Hazardous Substance (40 CFR 302.4)		
Not regulated		
SARA 302 Extremely Hazardous Su	bstance (40 CFR 355 Appendices A / B)	
Not regulated		
SARA 304 Emergency Release Notification		
Not regulated		
SARA 311/312 Hazardous Chemical	l	
Chemical name	CAS number	
Isopropanol	67-63-0	
Phenolphthalein	77-09-8	
SARA 313 (TRI reporting)		
Chemical name	CAS number	
Phenolphthalein	77-09-8	
TSCA Section 8(b) Chemical Invent	ory	
All components are on the U.S. EP	A 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 Ha	zardous 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)

Chemical name	CAS number	
Phenolphthalein	77-09-8	

WARNING: This product can expose you to phenolphthalein, which is known to the State of California to cause cancer. For more information go to <u>www.P65Warnings.ca.gov</u>

Massachusetts Right-to-Kn	ow Act		
Chemical name	CAS number		
Phenolphthalein	77-09-8		
New Jersey Worker and Community Right-to-Know Act			
Chemical name	CAS number		
Isopropanol 67-63-0			
Phenolphthalein	77-09-8		
Pennsylvania Worker and Community Right-to-Know Act			
Chemical name	CAS number		
Isopropanol	67-63-0		
Rhode Island Right-to-Knov	v Act		
Chemical name	CAS number		
Isopropanol	67-63-0		
SECTION 16: Other information			
NFPA Rating Health hazard	2		
Fire hazard	3		

1

N/A

Specific Disclaimer

Reactivity

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Issue date:

May 2015

Last revisions

August 2018



SAFETY DATA SHEET

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

SECTION 1: Identification		
Product identifier	Dhana ala haka ta ba dha dh	
Product name	Phenolphthalein Indicator	
Product number	R-0638; R-0638-PL; R-0638BR; R-0638BR-PL; R-0638G; R-0638G-PL; R-0638O; R-0638O- PL; R-0638W; R-7638	
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) identified	cation	
Physical hazards	Flammable liquids	Category 2
Health hazards	Eye damage/irritation	Category 2A
	Carcinogenicity	Category 1B
	Germ cell mutagenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3
Environmental hazards	Not currently regulated by OSHA. For additional info	rmation, refer to section 12 of the SDS.
Signal word	Danger	
Hazard statements	Highly flammable liquid and vapor. Causes serious e irritation. May cause drowsiness or dizziness. May c genetic defects. Suspected of damaging fertility or th	ause cancer. Suspected of causing
Precautionary statements		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/eye protection/face protection if contact is likely to occur. Wash skin thoroughly after handling. Avoid breathing dust/fumes/gas/mists/vapors/spray. Use only outdoors or in a well-ventilated area.	
Response	IF EXPOSED OR CONCERNED: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician or poison center if you feel unwell. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: Get medical advice/attention. IN CASE OF FIRE: Use alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog to extinguish.	
Storage	Store in well-ventilated place. Keep cool. Keep tightl between 36°F-85°F. Store locked up.	y capped. Store out of direct sunlight
Disposal	Dispose of contents/container in accordance with loc regulations.	cal/regional/national/international
Hazards not otherwise classified	Not applicable	

SECTION 3: Composition/information on ingredients

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	45-70
Isopropyl alcohol	Isopropanol	67-63-0	30-60
Phenolphthalein	3,3-Bis(4-hydroxyphenyl)-1(3H)- isobenzofuranone	77-09-8	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

Immediately call a physician or poison control center. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

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

Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
•	
Advice for firefighters Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Hazardous combustion products	Carbon oxides, nitrogen oxides. Other irritating fumes and smoke.
Reactivity	Hazardous reactions will not occur under normal conditions.
Explosion hazard	Vapors may form explosive mixtures with air. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electric equipment). Vapors are heavier than air and may spread along floors.
Specific hazards arising from the s Fire hazard	substance or mixture Flammable liquid and vapor. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can be electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential static discharge, use proper bonding and grounding procedures. This mat may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, p lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread all floors.
Suitable extinguishing media Unsuitable extinguishing media	Alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog. Do not use a heavy water stream. Use of heavy stream of water may spread fire.

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 contaminated area. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. 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. Vapors may form explosive mixtures with air. Keep away from sources of ignition. NO SMOKING. Do not handle, store, or open near an open flame, sources of heat or sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. 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

Store in well-ventilated place. Keep cool. 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

LIS ACGIH Threshold Limit Values

Components		Туре	Value	
Isopropanol (CAS 67-63-0)		STEL	980 mg/m ³	
Isopropanol (CAS 67-63-0)		TWA	492 mg/m ³	
US NIOSH: Pocket Guide to Che	emical Hazards			
Components		Туре	Value	
Isopropanol (CAS 67-63-0)		ST	1225 mg/m ³	
Isopropanol (CAS 67-63-0)		TWA	980 mg/m ³	
Isopropanol (CAS 67-63-0)		IDLH	4920 mg/m ³	
US OSHA Table Z-1 Limits for A	ir Contaminants (2	29 CFR 1910.1000)		
Components		Туре	Value	
Isopropanol (CAS 67-63-0)		PEL	980 mg/m ³	
ological limit values				
CGIH Biological Exposure Indic	es			
Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/L	Acetone	Urine	End of shift at end of workweek
posure controls				
Appropriate engineering controls	should be matched ventilation, or other	d to conditions. If applica er engineering controls to exposure limits have not	able, use process enc o maintain airborne le t been established, m	vels below recommended aintain airborne levels to an
	acceptable level. I this product.	Eyewash facilities and er	nergency snower mu	st be available when handling
Personal protective equipment		Eyewash facilities and er	nergency snower mu	st be available when handling
Personal protective equipment Eye/face protection	this product.	Eyewash facilities and er chemical safety goggles	0	

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

SECTION 9: Physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear colorless
Odor	Alcohol
Odor threshold	90 mg/m ³
рН	No data available
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	180.4°F (82.3°C)
Flash point	53°F (12°C) Closed cup
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Flammable
Upper Flammability Limit	UEL 12% v/v 200° F (93°C)
Lower Flammability Limit	LEL 2% v/v 200° F (93°C)
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	Moderately explosive when exposed to heat or flame.
Oxidizing properties	No data available
CTION 10: Stability and reacti	ivity
Reactivity	Hazardous reactions will not occur under normal conditions.
-	Stable under recommended handling and storage conditions (refer to section 7 of the SDS).
	No dangerous reaction known under conditions of normal use.
	Heat, sparks, open flames, and other ignition sources. Temperatures exceeding the flash poir Direct sunlight. Contact with incompatible materials. Do not use in areas without adequate ventilation.
	Acetaldehyde, acids, chlorine, ethylene oxide, halogenated hydrocarbons, isocyanates, nitrite organics, strong acids, strong oxidizing agents.
Hazardous decomposition	No hazardous decomposition products under normal conditions.

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, drowsiness, dizziness. Symptoms may include coughing and breathing difficulties.	
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.	

	May cause cancer.
	Suspected of causing genetic defects.
	Suspected of damaging fertility or the unborn child.
Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	
IARC Monographs. Overall Eval	uation of Carcinogenicity
Phenolphthalein; Group 2B-Pos	sibly carcinogenic to humans
OSHA 13 Carcinogens	
Not regulated	
US National Toxicology Program	n (NTP) Report on Carcinogens
Phenolphthalein; Reasonably a	nticipated to be a human carcinogen
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness. May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available
SECTION 12: Ecological inform	ation
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	1219
UN Proper shipping name	Isopropyl alcohol solution
Reportable Quantity	None
Class (Subsidiary risk)	3
Label(s)	3
Packing group	II
Special provisions	IB2, T4, TP1
Packaging exceptions	4b, 150
Packaging, non-bulk	202
ΙΑΤΑ	
UN number	1219
UN Proper shipping name	Isopropyl alcohol solution
Class (Subsidiary risk)	3
Packing group	II
Special provisions	A180

IMDG	
UN number	1219
UN Proper shipping name	Isopropyl alcohol solution
Class (Subsidiary risk)	3
Packing group	ll
Environmental hazards	
Marine pollutant	No
Special provisions	None
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Transport in bulk according to Annex II	This substance/mixture is not intended to be transported in bulk.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT hazard pictograms

IMDG



IATA; IMDG hazard pictograms

SECTION 15: Regulatory information

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
Isopropanol	67-63-0
Phenolphthalein	77-09-8
SARA 313 (TRI reporting)	
Chemical name	CAS number
Phenolphthalein	77-09-8
TSCA Section 8(b) Chemical Inv	ventory

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)

Chemical name	CAS number
Phenolphthalein	77-09-8

WARNING: This product can expose you to phenolphthalein, which is known to the State of California to cause cancer. For more information go to <u>www.P65Warnings.ca.gov</u>

Massachusetts Right-to-Know	v Act
Chemical name	CAS number
Phenolphthalein	77-09-8
New Jersey Worker and Com	munity Right-to-Know Act
Chemical name	CAS number
Isopropanol	67-63-0
Phenolphthalein	77-09-8
Pennsylvania Worker and Co	mmunity Right-to-Know Act
Chemical name	CAS number
Isopropanol	67-63-0
Rhode Island Right-to-Know	Act
Chemical name	CAS number
Isopropanol	67-63-0
SECTION 16: Other information	on
NFPA Rating Health hazard	2

Health hazard	2
Fire hazard	3
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.

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

Issue date:

May 2015

Last revisions

April 2020



SAFETY DATA SHEET

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

CTION 1: Identification		
Product identifier		
Product name	Sulfuric Acid N	
Product number	R-0686; R-0686O; R-0686P; R-0686-PL; R-	-0686O-PL; R-0868P-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	
CTION 2: Hazard(s) Identifie	cation	
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 additi	ional information, refer to section 12 of the SDS.
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 tho gloves/protective clothing/eye protection/fac in original container.	
Prevention Response	gloves/protective clothing/eye protection/fac in original container. IF SWALLOWED: Rinse mouth. Do NOT ind Immediately take off all contaminated clothin clothing before reuse. IF INHALED: Remove breathing. Immediately call a physician or po- with water for several minutes. Remove con-	ce protection if contact is likely to occur. Keep only duce vomiting. IF ON SKIN (OR HAIR): ng. Rinse skin with water. Wash contaminated e person to fresh air and keep comfortable for
	gloves/protective clothing/eye protection/fac in original container. IF SWALLOWED: Rinse mouth. Do NOT ind Immediately take off all contaminated clothin clothing before reuse. IF INHALED: Remove breathing. Immediately call a physician or po with water for several minutes. Remove con rinsing. Immediately call a physician or poise material damage.	ce protection if contact is likely to occur. Keep only duce vomiting. IF ON SKIN (OR HAIR): ng. Rinse skin with water. Wash contaminated e person to fresh air and keep comfortable for oison control center. IF IN EYES: Rinse cautiously that lenses if present and easy to do. Continue con control center. Absorb spillage to prevent orrosive-resistant inner liner. Keep tightly capped.
Response	 gloves/protective clothing/eye protection/factin original container. IF SWALLOWED: Rinse mouth. Do NOT inclimediately take off all contaminated clothin clothing before reuse. IF INHALED: Remove breathing. Immediately call a physician or prwith water for several minutes. Remove con rinsing. Immediately call a physician or poise material damage. Store in corrosive-resistant container with container	ce protection if contact is likely to occur. Keep only duce vomiting. IF ON SKIN (OR HAIR): ng. Rinse skin with water. Wash contaminated e person to fresh air and keep comfortable for oison control center. IF IN EYES: Rinse cautiously ntact lenses if present and easy to do. Continue con control center. Absorb spillage to prevent orrosive-resistant inner liner. Keep tightly capped. between 36°F–85°F.

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Sulfuric acid	Sulphuric acid; Dihydrogen sulfate	7664-93-9	3-7

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

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 Unsuitable extinguishing media	Use extinguishing media appropriate for surrounding fire. Do not use a heavy water stream. Use of heavy stream of water may spread fire.
Specific hazards arising from the Fire hazard	substance or mixture 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. 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 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 incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store locked up. 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	Туре	Value
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³ (thoracic particulate)
US NIOSH: Pocket Guide to Chemical Hazar	ds	
Components	Туре	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 Contamination	ants (29 CFR 1910.1000)	
Components	Туре	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
рН	0.6
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		
CTION 10: Stability and Read	ctivity		
Reactivity	May be corrosive to metals.		
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS). No dangerous reaction known under conditions of normal use.		
Possibility of hazardous reactions			
Conditions to avoid	Contact with incompatible materi	als. Do not use in areas without adequate ventilation.	
Incompatible materials	Bases, chlorates, halides, hydrogen peroxide, metal compounds, nitrates, nitromethane, organic materials, oxidizing agents, perchlorates, phosphorous.		
Hazardous decomposition products			
CTION 11: Toxicological Info	ormation		
Information on toxicological effect	ts		
Likely routes of exposure are sl			
Most important symptoms/effects, acute and	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permaner scarring.		
delayed	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.		
	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.		
	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. This product is not classified as an acute toxicity hazard. See below for product and individu ingredient acute toxicity data.		
Acute toxicity			
Product	Species	Acute Toxicity Estimate (ATE)	
Sulfuric Acid N (CAS Mixture)			
Acute			
Dermal			
LD ₅₀	Rat	No data available	
Inhalation			
LC ₅₀	Rat	>5 mg/L	
Oral			
LD ₅₀	Rat	>2000 mg/kg	
Components	Species	Acute Toxicity Data	
Sulfuric acid (CAS 7664-93-9)			
Acute			
Acute	Rat	No data available	
Acute Dermal	Rat	No data available	
Acute Dermal LD ₅₀	Rat Rat	No data available 0.375 mg/L (for aerosol mists)	
Acute Dermal LD ₅₀ Inhalation			
Acute Dermal LD ₅₀ Inhalation LC ₅₀			
Acute Dermal LD ₅₀ Inhalation LC ₅₀ Oral	Rat	0.375 mg/L (for aerosol mists)	

Respiratory sensitization	No data available		
Skin sensitization	No data available		
Germ cell mutagenicity	No data available		
Carcinogenicity			
IARC Monographs. Overall Ev	valuation 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 Infor	mation		
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

_ _ _

UN number2796UN Proper shipping nameSulphuric acidReportable Quantity1000 lbsClass (Subsidiary risk)8Label(s)8Packing groupIISpecial provisions386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2Packaging exceptions154Packaging non-bulk202IATA2196UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsSulphuric acidUN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIUN number2796UN number2796IDIGIIIFereir provisionsSulphuric acidIDIGSpecial provisionsIDIGIIIIDIGIIIIIDIGIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	DOT	
Reportable Quantity1000 lbsClass (Subsidiary risk)8Label(s)8Packing groupIISpecial provisions386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2Packaging exceptions154Packaging, non-bulk202IATA202IATAUN numberUN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDGUN Proper shipping nameUN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIProper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazardsII	UN number	2796
Class (Subsidiary risk)8Label(s)8Packing groupIISpecial provisions386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2Packaging exceptions154Packaging, non-bulk202IAT-VIN numberUN number2796Class (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMT-VIN numberQuerting groupIIClass (Subsidiary risk)8Packing groupIIUN number2796UN number2796Jacking groupIIBacking groupIIPacking groupIIJass (Subsidiary risk)8Packing groupIIIMT196	UN Proper shipping name	Sulphuric acid
Label(s)8Packing groupIISpecial provisions386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2Packaging exceptions154Packaging, non-bulk202IATAUN numberUN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN number2796IMDGIIPacking groupIIPacking groupIIPacking groupIIPacking groupIIIPacking groupIIIPacking groupIIISpecial provisionsSulphuric acidIMDGIIIImport of the proper shipping nameSulphuric acidImport of the proper shipping nameSulph	Reportable Quantity	1000 lbs
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Special provisions386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2Packaging exceptions154Packaging, non-bulk202IATAUN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN number2796IMDGIIPacking groupIIBacking groupIIFacking groupIIBacking groupIIIClass (Subsidiary risk)8Packing groupIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIMDGIIIIIMDGIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Label(s)	8
Packaging exceptions154Packaging, non-bulk202IATA202IATA2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazardsII	Packing group	II
Packaging, non-bulk202IATA2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIIMDG2796IMDGSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazards	Special provisions	386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2
IATA UN number 2796 UN Proper shipping name Sulphuric acid Class (Subsidiary risk) 8 Packing group II Special provisions None IMDG UN number 2796 UN Proper shipping name Sulphuric acid Class (Subsidiary risk) 8 Packing group II Environmental hazards	Packaging exceptions	154
UN number 2796 UN Proper shipping name Sulphuric acid Class (Subsidiary risk) 8 Packing group II Special provisions None IMDG UN number 2796 UN Proper shipping name Sulphuric acid Class (Subsidiary risk) 8 Packing group II Environmental hazards	Packaging, non-bulk	202
UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN numberSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazardsII	ΙΑΤΑ	
Class (Subsidiary risk)8Packing groupIISpecial provisionsNoneIMDG2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazards	UN number	2796
Packing groupIISpecial provisionsNoneIMDG2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazards	UN Proper shipping name	Sulphuric acid
Special provisionsNoneIMDG2796UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazards	Class (Subsidiary risk)	8
IMDG UN number 2796 UN Proper shipping name Sulphuric acid Class (Subsidiary risk) 8 Packing group II Environmental hazards	Packing group	11
UN number2796UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazards	Special provisions	None
UN Proper shipping nameSulphuric acidClass (Subsidiary risk)8Packing groupIIEnvironmental hazards	IMDG	
Class (Subsidiary risk)8Packing groupIIEnvironmental hazards	UN number	2796
Packing group II Environmental hazards	UN Proper shipping name	Sulphuric acid
Environmental hazards	Class (Subsidiary risk)	8
	Packing group	II
Marine pollutant No	Environmental hazards	
	Marine pollutant	No

Special provisions EmS None F-A, S-B

Special precautions for user

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT hazard pictograms

Read safety instructions, SDS, and emergency procedures before handling. This substance/mixture is not intended to be transported in bulk.



SECTION 15: Regulatory Information

IATA; IMDG hazard pictograms

Chemical name	CAS number	Reportable Quantity
Sulfuric acid	7664-93-9	1000 lbs
SARA 302 Extremely Hazar	dous Substance (40 C	FR 355 Appendices A / B
Chemical name	CAS number	_
Sulfuric acid	7664-93-9	
SARA 304 Emergency Rele	ase 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) Chemica All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations	U.S. EPA TSCA Invent	•
All components are on the TSCA Section 12(b) Export Not regulated	U.S. EPA TSCA Invent Notification (40 CFR 7	07, Subpt. D)
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio	Notification (40 CFR 7	07, Subpt. D) ollutants (HAPs)
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio Not regulated	n 112(r) Accidental Re	07, Subpt. D) ollutants (HAPs) lease Prevention (40 CFR
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All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio Not regulated Clean Water Act, Toxic and	Notification (40 CFR 7 Notification (40 CFR 7 n 112 Hazardous Air P n 112(r) Accidental Re Priority Pollutants (40	07, Subpt. D) ollutants (HAPs) lease Prevention (40 CFR
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio Not regulated Clean Water Act, Toxic and Not regulated	Notification (40 CFR 7 Notification (40 CFR 7 n 112 Hazardous Air P n 112(r) Accidental Re Priority Pollutants (40	07, Subpt. D) ollutants (HAPs) lease Prevention (40 CFR
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Section Not regulated Clean Air Act (CAA) Section Not regulated Clean Water Act, Toxic and Not regulated Safe Drinking Water Act (Signature)	Notification (40 CFR 7 Notification (40 CFR 7 n 112 Hazardous Air P n 112(r) Accidental Re Priority Pollutants (40	07, Subpt. D) ollutants (HAPs) lease Prevention (40 CFR
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio Not regulated Clean Water Act, Toxic and Not regulated Safe Drinking Water Act (SI Not regulated	9 U.S. EPA TSCA Invent Notification (40 CFR 7 n 112 Hazardous Air P n 112(r) Accidental Re Priority Pollutants (40 DWA)	07, Subpt. D) ollutants (HAPs) ease Prevention (40 CFR CFR 401.15 and CFR 423
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio Not regulated Clean Water Act, Toxic and Not regulated Safe Drinking Water Act (SI Not regulated S state regulations	9 U.S. EPA TSCA Invent Notification (40 CFR 7 n 112 Hazardous Air P n 112(r) Accidental Re Priority Pollutants (40 DWA)	07, Subpt. D) ollutants (HAPs) ease Prevention (40 CFR CFR 401.15 and CFR 423
All components are on the TSCA Section 12(b) Export Not regulated ther federal regulations Clean Air Act (CAA) Sectio Not regulated Clean Air Act (CAA) Sectio Not regulated Clean Water Act, Toxic and Not regulated Safe Drinking Water Act (Si Not regulated State regulations California Safe Drinking Water	e U.S. EPA TSCA Invent Notification (40 CFR 7 n 112 Hazardous Air P n 112(r) Accidental Re Priority Pollutants (40 DWA)	07, Subpt. D) ollutants (HAPs) ease Prevention (40 CFR CFR 401.15 and CFR 423

New Jersey Worker and C	ommunity Right-to-Know Act
Chemical name	CAS number
Sulfuric acid	7664-93-9
Pennsylvania Worker and	Community Right-to-Know Act
Chemical name	CAS number
Sulfuric acid	7664-93-9
Rhode Island Right-to-Kno	ow Act
Chemical name	CAS number
Sulfuric acid	7664-93-9
CTION 16: Other Inform	nation
NFPA Rating	
Health hazard	2
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015

Last revisions

July 2019



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

Revision: 10/28/2021

CTION 1: Identification	
Product identifier	Dhaan haa ata Titaatian Qabatian
Product name	Phosphonate Titrating Solution
Product number	R-0803; R-0803-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of th 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
CTION 2: Hazard(s) Identifie	cation
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	This mixture does not meet the criteria for classification.
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. Do not ingest. Use care when handling.
Response	Wash hands after handling. If eye contact occurs, flush thoroughly with water. If ingested, contact a physician or local poison control center.
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	This product contains Thorium Nitrate, a compound known to have low-level, naturally occurring radioactivity. Contact a licensed professional waste disposal service for the proper disposal of this material.
CTION 3: Composition/Info	rmation on Ingredients
Mixture	

	composition/information on ingredients
Missione	

mixtare			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	99.9
Thorium nitrate tetrahydrate	Nitric acid, thorium(4+) salt	13470-07-0	0.1
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. Contact a physician or local poison control center.

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

Use extinguishing media appropriate for surrounding fire.
Do not use a heavy water stream. Use of heavy stream of water may spread fire.
substance or mixture
Not flammable
Not explosive
Hazardous reactions will not occur under normal conditions.
Metal oxides, nitrogen oxides. Other irritating fumes and smoke.
Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Use water spray or fog for cooling exposed containers.
Do not enter fire area without proper protective equipment, including respiratory protection.
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 dust, 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	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
рН	3.2
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
Other information	
Explosive properties	Not explosive
Oxidizing properties	No data available
Specific activity	5.1E-11 Ci/g

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. Organic materials.
Hazardous decomposition products	Hazardous reactions will not occur 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 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 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

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

symptoms and effects.

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	Although elemental thorium and thorium nitrate are not classified as carcinogens, both materials are mildly radioactive. Prolonged exposure may be associated with an increased risk of cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		

May cause temporary skin or eye irritation. Refer to section 4 of the SDS for most important

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

This product contains Thorium Nitrate, a compound known to have low-level, naturally occurring radioactivity. Contact a licensed professional waste disposal service for the proper disposal of this material. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport In	ormation	
DOT	Not regulated as dangerous goods	
ΙΑΤΑ	Not regulated as dangerous goods	
IMDG	Not regulated as dangerous goods	
SECTION 15: Regulatory	nformation	
US federal regulations		
CERCLA Hazardous Sub	tance (40 CFR 302.4)	
Not regulated		
SARA 302 Extremely Haz	ardous Substance (40 CFR 355 Appendices A / B)	
Not regulated		
SARA 304 Emergency Re	ease Notification	
Not regulated		
SARA 311/312 Hazardou	Chemical	
Not regulated		
SARA 313 (TRI reporting		
Not regulated		
TSCA Section 8(b) Chem	cal Inventory	
All components are on t	e U.S. EPA TSCA Inventory list.	
	rt Notification (40 CFR 707, Subpt. D)	
Not regulated		
Other federal regulations		
	on 112 Hazardous Air Pollutants (HAPs)	
Not regulated		
Clean Air Act (CAA) Sect Not regulated	on 112(r) Accidental Release Prevention (40 CFR 68.130)	
Clean Water Act, Toxic a	d 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	Vater and Toxic Enforcement Act of 1986 (California Proposition 65)	
Not regulated		
Massachusetts Right-to-	inow Act	
Chemical name	CAS number	
Thorium Nitrate	13823-29-5	
-	ommunity Right-to-Know Act	
<u>Chemical name</u> Thorium Nitrate	CAS number 13823-29-5	
	Community Right-to-Know Act	
Chemical name	CAS number	
Thorium Nitrate	13823-29-5	
Rhode Island Right-to-Kr	ow Act	
Not regulated		
SECTION 16: Other Inforn	ation	
NFPA Rating		
Health hazard	0	

Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015

Revision date:

10/28/2021

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.

Label supplemental information. First aid measures. Information on likely routes of exposure. Physical and Chemical Properties. Disposal information.

Supersedes revision dated 2/25/2021.



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

CECTION 4. Identification	
SECTION 1: Identification	
Product identifier Product name	Silver Nitrate Reagent
Product number	R-0807; R-0807-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) Identified	cation
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
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable level	Not applicable s	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

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 Meas	ures
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. 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

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)

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

Dhysical state	Lieuid
Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
рН	No data available
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boilin	g range) No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	e No data available
Decomposition temperat	ure No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	t No data available
Lower Flammability Limit	t 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.
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	Acetylene, alcohols, ammonia, azides, calcium carbide, fluorides, organic compounds, peroxides, powdered metals, strong acids, and strong oxidizing agents.
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.

SECTION 11: Toxicological Information

Likely routes of exposure are sl Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include rednes and itching.
	Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging tearing, redness, swelling, and blurred vision.
	Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Acute toxicity	This product is not classified as an acute toxicity hazard.
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 Eval Not regulated	uation of Carcinogenicity
OSHA Specifically Regulated Su Not regulated	ubstances (29 CFR 1910.1001-1096)
US National Toxicology Prograr Not regulated	n (NTP) Report on 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
CTION 12: Ecological Inform	ation
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.
CTION 13: Disposal Conside	rations
residue, follow label warnings even a	ealed containers at a licensed waste disposal site. Since emptied containers may retain product for container is emptied. This material and its container must be disposed of in a safe manner brdance with local/regional/national/international regulations.
CTION 14: Transport Informa	ntion
DOT	Not regulated as dangerous goods
ΙΑΤΑ	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
CTION 15: Regulatory Inform	
US federal regulations	
CERCLA Hazardous Substance	(40 CER 302 4)
CENCLA Hazardous Substance	(40 CFN 302.4)

SARA 304 Emergency Rele Not regulated	ase Notification
SARA 311/312 Hazardous (Not regulated	Shemical
SARA 313 (TRI reporting) Not regulated	
TSCA Section 8(b) Chemica All components are on the	al Inventory 9 U.S. EPA TSCA Inventory list. 9 Notification (40 CFR 707, Subpt. D)
Other federal regulations Clean Air Act (CAA) Section Not regulated	n 112 Hazardous Air Pollutants (HAPs)
Clean Air Act (CAA) Section Not regulated	n 112(r) Accidental Release Prevention (40 CFR 68.130)
Clean Water Act, Toxic and	I Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)
Not regulated	
Safe Drinking Water Act (S Not regulated	DWA)
US state regulations California Safe Drinking Wa Not regulated	ater and Toxic Enforcement Act of 1986 (California Proposition 65)
Massachusetts Right-to-Kn Not regulated	iow Act
New Jersey Worker and Co Not regulated	ommunity Right-to-Know Act
Pennsylvania Worker and (Not regulated	Community Right-to-Know Act
Rhode Island Right-to-Kno Not regulated	w Act
CTION 16: Other Informa	tion
NFPA Rating Health hazard	0
i icalui i lazai U	0
Fire hazard	U
Fire hazard Reactivity	0

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May 2015

Last revisions

July 2019



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

SECTION 1: Identification	
Product identifier	
Product name	Thiosulfate N/10
Product number	R-0697; R-0697-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) Identific	cation
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
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	1-5

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

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 Measu	ures
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 s	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, hydrogen sulfide; 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.
CECTION C. Assistantal Dalage	

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 dust or mist. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

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)

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
рН	9.6
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.
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 and strong acids.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological Information

Information on toxicological effect Likely routes of exposure are sk	
Most important	Direct skin contact may cause slight or mild transient irritation. Symptoms may include rednes
symptoms/effects, acute and delayed	and itching. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging tearing, redness, swelling, and blurred vision.
	Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	
IARC Monographs. Overall Eval	uation of Carcinogenicity
Not regulated	
°,	ubstances (29 CFR 1910.1001-1096)
Not regulated	
US National Toxicology Program	n (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
CTION 12: Ecological Inform	ation
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.
CTION 13: Disposal Conside	rations
residue, follow label warnings even a	ealed containers at a licensed waste disposal site. Since emptied containers may retain product for container is emptied. This material and its container must be disposed of in a safe manner ordance with local/regional/national/international regulations.
CTION 14: Transport Informa	tion
DOT	Not regulated as dangerous goods
ΙΑΤΑ	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
CTION 15: Regulatory Inform	ation
US federal regulations	
CERCLA Hazardous Substance	

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

SARA 304 Emergency Rele	ease Notification
Not regulated	
SARA 311/312 Hazardous	Chemical
Not regulated	
SARA 313 (TRI reporting)	
Not regulated	
TSCA Section 8(b) Chemic	al Inventory
All components are on the	e U.S. EPA TSCA Inventory list.
TSCA Section 12(b) Export	t Notification (40 CFR 707, Subpt. D)
Not regulated	
Other federal regulations	
Clean Air Act (CAA) Sectio	on 112 Hazardous Air Pollutants (HAPs)
Not regulated	
Clean Air Act (CAA) Sectio	on 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated	
Clean Water Act, Toxic and	d Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)
Not regulated	
Safe Drinking Water Act (S	SDWA)
Not regulated	
US state regulations	
California Safe Drinking W	ater and Toxic Enforcement Act of 1986 (California Proposition 65)
Not regulated	
Massachusetts Right-to-Kr	now Act
Not regulated	
New Jersey Worker and Co	ommunity Right-to-Know Act
Not regulated	
Pennsylvania Worker and	Community Right-to-Know Act
Not regulated	
Rhode Island Right-to-Kno	ow Act
Not regulated	
CTION 16: Other informa	ation
NFPA Rating	
Health hazard	0
Fire hazard	0
Reactivity Specific	0 N/A
SDECITIC	

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Issue date:

May 2015

Last revisions

December 2019



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

Product identifier	
Product name	XO Indicator Powder
Product number	R-0802P; R-0802P-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
CTION 2: Hazard(s) Identifie	cation
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 need
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

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	100

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

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 Measure	ures
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 s	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, sodium oxides, 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.
CECTION C. Assistantel Dalage	

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)

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

mormation on basic physical and	chemical properties
Physical state	Solid
Form	Crystalline
Color	Grayish purple
Odor	Odorless
Odor threshold	No data available
рН	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	No data available
(n-octanol/water)	
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 oxidizing agents, strong acids.
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.

SECTION 11: Toxicological Information

Likely routes of exposure are sk Most important symptoms/effects, acute and	Direct skin contact may cause slight or mild transient irritation. Symptoms may include rednes and itching.
delayed	Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging tearing, redness, swelling, and blurred vision.
	Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Acute toxicity	This product is not classified as an acute toxicity hazard.
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 Eval Not regulated	uation of Carcinogenicity
-	ubstances (29 CFR 1910.1001-1096)
US National Toxicology Program	n (NTP) Report on Carcinogens
Not regulated	No data availabla
Reproductive toxicity	No data available No data available
Specific target organ toxicity (single exposure)	
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available
CTION 12: Ecological Inform	ation
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.
CTION 13: Disposal Conside	rations
residue, follow label warnings even a	ealed containers at a licensed waste disposal site. Since emptied containers may retain product for container is emptied. This material and its container must be disposed of in a safe manner. brdance with local/regional/national/international regulations.
CTION 14: Transport Informa	ntion
DOT	Not regulated as dangerous goods
ΙΑΤΑ	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
CTION 15: Regulatory Inform	nation
US federal regulations	
CERCLA Hazardous Substance	(40 CFR 302.4)
Not regulated	

SARA 304 Emergency Re	lease Notification
Not regulated	
SARA 311/312 Hazardous	s Chemical
Not regulated	
SARA 313 (TRI reporting)	
Not regulated	
TSCA Section 8(b) Chemi	ical Inventory
	he U.S. EPA TSCA Inventory list.
TSCA Section 12(b) Expo	rt Notification (40 CFR 707, Subpt. D)
Not regulated	
Other federal regulations	
Clean Air Act (CAA) Secti	ion 112 Hazardous Air Pollutants (HAPs)
Not regulated	
Clean Air Act (CAA) Secti	ion 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated	
Clean Water Act, Toxic ar	nd Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)
Not regulated	
Safe Drinking Water Act ((SDWA)
Not regulated	
US state regulations	
-	Nater and Toxic Enforcement Act of 1986 (California Proposition 65)
Not regulated	
Massachusetts Right-to-k	Know Act
Not regulated	
New Jersey Worker and C	Community Right-to-Know Act
Not regulated	
Pennsylvania Worker and	I Community Right-to-Know Act
Not regulated	
Rhode Island Right-to-Kn	iow Act
Not regulated	
ECTION 16: Other Inform	ation
NFPA Rating	
Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A
Diselaimer	

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