

SAFETY DATA SHEET

1. Identification		
Product identifier	DPD Reagent #3	
Product code	R-0003	
Recommended use	Use as directed by manufactur	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/I	Distributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle	
	Sparks, MD 21152	
	United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone numbe	r (800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	None required
Signal word	None required
Hazard statement	None required
Precautionary statement	
Prevention	None required
Response	None required
Storage	None required
Disposal	None required
Hazard(s) not otherwise classifie	ed May be mildly irritating to skin, eyes, and respiratory system. May cause discomfort if swallowed.
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	70–80
Potassium iodide	Potassium iodide, anhydrous	7681-11-0	10–20
Other components below reportable levels			0.01–0.1

4. First-aid measures

Inhalation

Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
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.
Ingestion	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Indication of 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.
5. Firefighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted
Hazardous combustion products	Carbon oxides. Hydrogen iodide. lodine oxides. Other irritating fumes and smoke.
6. Accidental release meas	sures
Democratic management in a second	

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Material name: DPD Reagent #3; R-0003

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

Components	Туре	Value	Form
Potassium iodide (CAS 7681-1	1-0) TWA	0.01 ppm	Inhalable fraction and vapor
Biological limit values	No biological exposure limits noted	for the ingredient(s)	
Appropriate engineering controls	Good general ventilation (typically should be matched to conditions. If or other engineering controls to ma exposure limits have not been esta	applicable, use process enclo intain airborne levels below re	sures, local exhaust ventilation commended exposure limits. If
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shiel eyewash fountain and quick-drench		• •
Skin protection			
Hand protection	Wear appropriate chemical-resista	nt gloves. Advice should be so	ught from glove suppliers.
Other	Wear appropriate chemical-resistar	nt clothing.	
Respiratory protection	In case of insufficient ventilation, w approved respirator if there is a risk Advice should be sought from resp	of exposure to fumes at level	
Thermal hazards	When necessary, wear appropriate	thermal protective clothing.	
General hygiene considerations	Always observe good personal hyg and before eating, drinking and/or equipment to remove contaminatio	smoking. Routinely wash work	clothing and protective

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	7.6
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable

Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.07 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	80%
Specific gravity	1.07

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

information on likely routes o	rexposure	
Inhalation	May cause irritation to the res	spiratory system
Skin contact	May cause slight or mild trans	sient irritation
Eye contact	May cause temporary irritatio	n
Ingestion	May cause discomfort	
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.	
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.	
Components	Species	Test Results
Potassium iodide (CAS 7681-7	11-0)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Mouse	1862 mg/kg
Deionized water (CAS 7732-18	8-5)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available

Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	May cause slight or mild transient irritation	
Serious eye damage/eye irritation	May cause temporary irritation	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.	
OSHA Specifically Regulate	d Substances (29 CFR 1910.1001-1096)	
Not regulated		
Reproductive toxicity	This product is not expected to cause reprodu	ctive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicit	ty – single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicit	ty – repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard	
Chronic effects	Frequent or prolonged contact may dry the sk	in, leading to discomfort and dermatitis.

12. Ecological information

Ecotoxicity	This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	High water solubility indicates a high mobility in soil.
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

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

15. Regulatory information	on	
U.S. federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSH	A Hazard
	Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory list.	
TSCA Section 12(b) Expo	t Notification (40 CFR 707, Subpt. D)	
Not regulated		
CERCLA Hazardous Subs	tance (40 CFR 302.4)	
Not regulated		
SARA 304 Emergency Rel	ease Notification	
Not regulated		
OSHA Specifically Regula	ted Substances (29 CFR 1910.1001-1096)	
Not regulated		
-	Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate hazard – no Delayed hazard – no	
	Fire hazard – no	
	Pressure hazard – no Reactivity hazard – no	
SARA 302 Extremely Haza	-	
Not regulated		
SARA 311/312 Hazardous	Chemical	
Not regulated		
SARA 313 (TRI reporting)		
Not regulated		
Other federal regulations		
Clean Air Act (CAA) Section	on 112 Hazardous Air Pollutants (HAP)	
Not regulated		
	on 112(r) Accidental Release Prevention (40 CFR 68.130)	
Not regulated Safe Drinking Water Act (\$	SDWA)	
Not regulated		
U.S. state regulations		
California Controlled Sub	stances. CA Department of Justice (California Health and Safety Code Section 1	1100)
Not regulated		
Massachusetts Right-to-K	now Act	
Not regulated New Jersev Worker and C	ommunity Right-to-Know Act	
Not regulated		
-	Community Right-to-Know Act	
Not regulated Rhode Island Right-to-Kno	ow Act	
Not regulated		
California Proposition 65		
	ng Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is no currently listed as carcinogens or reproductive toxins.	t known to
International inventories		
Country(ies) or region	Inventory name	On inventory
		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	-
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Country(ies) or region	Inventory name	On inventory

		(yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	o Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit

	TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds WEL: workplace exposure limit
Disclaimer	The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy of completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.
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Issue date	April 2015
Last revision	April 2015



SAFETY DATA SHEET

1. Identification

Product identifier	pH Indicator Solution (Pheno	l Red)
Product code	R-0004	
Recommended use	Use as directed by manufacturer for purposes directly related to water testing.	
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/D	istributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	None required
Signal word	None required
Hazard statement	None required
Precautionary statement	
Prevention	None required
Response	None required
Storage	None required
Disposal	None required
Hazard(s) not otherwise classified	None
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	90–99
Trade secret			0.1–5
Other components below reportable levels			0.1–5

4. First-aid measures

Inhalation

Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

Skin contact Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice. 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. Ingestion Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice. Most important Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, symptoms/effects, acute edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient and delayed irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Provide general supportive measures and treat symptomatically. Indication of immediate medical attention and special treatment needed General information Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves. 5. Firefighting measures Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide. Unsuitable extinguishing Do not use water jet as an extinguisher, as this will spread the fire. media Specific hazards arising from During fire, gases hazardous to health may be formed. the chemical Special protective equipment Self-contained breathing apparatus and full protective clothing must be worn in case of fire. and precautions for firefighters Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind Firefighting to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get equipment/instructions water inside container. Move containers from fire area if it can be done without risk. Prevent fireextinguishing water from contaminating surface water or the ground water system. Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. General fire hazards No unusual fire or explosion hazards noted Hazardous combustion Carbon oxides. Sulfur oxides. Other irritating fumes and smoke. products 6. Accidental release measures

Personal precautions, Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of protective equipment, and low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist emergency procedures or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS. Large Spills: Dike the spilled material where this is possible. Stop leak if it can be done without Methods and materials for containment and cleaning up risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewer, basements, or confined areas. Following product recovery, flush area with water. Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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. Environmental precautions Avoid discharge into drains, water courses, or onto the ground. 7. Handling and storage Precautions for safe handling Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective

equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from

incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Туре	Value	Form
Trade secret	PEL	22 mg/m ³	Not applicable
		5 ppm	
U.S. ACGIH Threshold Limit V			
Components	Туре	Value	Form
Trade secret	TWA	20 mg/m ³	Inhalable fraction and vapor
Biological limit values	No biological exposure limits noted for	or the ingredient(s)	
Exposure guidelines			
California OELs: Skin design	ation		
Trade secret	Can be absorbed through skin		
Minnesota Hazardous Substa	nce: Skin designation		
Trade secret	Skin de	esignation applies	
Tennessee OELs: Skin desig	nation		
Trade secret	Can be	e absorbed through skin	
U.S. ACGIH Threshold Limit	/alues: Skin designation		
Trade secret	Can be	e absorbed through skin	
OSHA Table Z-1 Limits for Ai	r Contaminants (29 CFR 1910.1000)		
Trade secret	Can be	e absorbed through skin	
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 ventilatio or other engineering controls to maintain airborne levels below recommended exposure limits. exposure limits have not been established, maintain airborne levels to an acceptable level.		
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.		
Skin protection			
Hand protection	Wear appropriate chemical-resistant	gloves. Advice should be sou	ight from glove suppliers.
Other	Wear appropriate chemical-resistant	clothing.	
Respiratory protection	In case of insufficient ventilation, we approved respirator if there is a risk limits. Advice should be sought from	of exposure to fumes at levels	exceeding the exposure
Thermal hazards	When necessary, wear appropriate	thermal protective clothing.	
General hygiene considerations	Always observe good personal hygi and before eating, drinking and/or s equipment to remove contamination	moking. Routinely wash worl	clothing and protective

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear red
Odor	Phenolic
Odor threshold	Not available
рН	7.7

Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	98%
Specific gravity	1.00

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system
Skin contact	May cause slight or mild transient irritation
Eye contact	May cause temporary irritation
Ingestion	May cause discomfort
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. 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 tox acute toxicity data.	cicity hazard. See below for individual ingredient
Components	Species	Test Results
Trade secret		
Acute		
Dermal		
LD_{50}	Rabbit	2050 mg/kg
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	242 mg/kg
Deionized water (CAS 7732-18-5		
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	May cause slight or mild transient irritation	
Serious eye damage/eye rritation	May cause temporary irritation	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, U.S. ACGIH.	
OSHA Specifically Regulate	d Substances (29 CFR 1910.1001-1096)	
Not regulated	· · · · · ·	
Reproductive toxicity	This product is not expected to cause reproc	luctive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure	
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity – repeated exposure	
Aspiration toxicity	Not expected to be an aspiration hazard	
Chronic effects	Frequent or prolonged contact may dry the s	skin, leading to discomfort and dermatitis.
12. Ecological information		
Ecotoxicity		ally hazardous; however, this does not exclude the ve a harmful or damaging effect on the environment
Persistence and degradability	Not available	
Bioaccumulative potential	Not available	
Partition coefficient n-octan	ol / water (log K _{ow})	
Trade secret	1.96	
Nobility in soil	High water solubility indicates a high mobility	y in soil.
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	
13. Disposal consideratior	IS	
Disposal instructions	Collect and reclaim or dispose in sealed con contents/container in accordance with local/	tainers at licensed waste disposal site. Dispose of regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable re	
Hazardous waste code		ission with the user, the producer, and the waste
	disposal company.	

Waste from residues/unused products Contaminated packaging Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).

Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods

ΙΑΤΑ

Not regulated as dangerous goods IMDG

Not regulated as dangerous goods

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

15. Regulatory information

U.S. federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

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

Not regulated

CERCLA Hazardous Substance (40 CFR 302.4)

Trade secret

SARA 304 Emergency Release Notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate hazard – yes Delayed hazard – no Fire hazard – no Pressure hazard – no Reactivity hazard – no

SARA 302 Extremely Hazardous Substance

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

Other federal regulations

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

Trade secret

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

U.S. state regulations

California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100) Not listed

Massachusetts Right-to-Know Act

Trade secret

New Jersey Worker and Community Right-to-Know Act

Trade secret

Pennsylvania Worker and Community Right-to-Know Act

Trade secret

Rhode Island Right-to-Know Act

Trade secret

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	no
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	no
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	no
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Ricc	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation DSL: Domestic Substances List EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ELINCS: European List of Notified Chemical Substances EA: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Auterials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Agency for Research on Cancer IATA: International Agency for Research on Cancer IATA: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Maritime Dangerous Goods IUCLID: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List

	NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIOC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average WOC: volatile organic compounds WEL: workplace exposure limit
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 changed, or 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	April 2015
Last revision	April 2015



1. Identification

SAFETY DATA SHEET

Product identifier	Acid Demand Reagent (ADR)		
Product code	R-0005		
Recommended use	Use as directed by manufacturer for purposes directly related to water testing.		
Recommended restrictions	None known		
Manufacturer/Importer/Supplier/D	istributor information		
Manufacturer			
Company name	Taylor Technologies, Inc.		
Address	31 Loveton Circle Sparks, MD 21152 United States		
Telephone	(410) 472-4340 Monday–Frida	ay, 8:00 a.m.–4:30 p.m.	
Website	www.taylortechnologies.com		
E-mail	Not available		
Emergency phone number	(800) 837-8548		
2. Hazard(s) identification Physical hazards	Corrosive to metals	Category 1	
Health hazards	Eye damage/irritation	Category 1	
	Skin corrosion/irritation	Category 1C	
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation	
Environmontal bazarda	Not currently regulated by OSHA: refer to sect		
Environmental hazards Label elements	Not currently regulated by OSHA; refer to sect		
	Not currently regulated by OSHA; refer to sect		
Label elements	Danger		
Label elements Signal word	Danger May be corrosive to metals. Causes severe sk irritation.	ion 12 of the SDS for additional information.	
Label elements Signal word Hazard statement	Danger May be corrosive to metals. Causes severe sk	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after	
Label elements Signal word Hazard statement Precautionary statement	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after	
Label elements Signal word Hazard statement Precautionary statement Prevention	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila clothing/eye protection/face protection.	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory mist or vapor. Wash skin thoroughly after ated area. Wear protective gloves/protective	
Label elements Signal word Hazard statement Precautionary statement Prevention	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila clothing/eye protection/face protection. Absorb spillage to prevent material damage.	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after ated area. Wear protective gloves/protective	
Label elements Signal word Hazard statement Precautionary statement Prevention	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila clothing/eye protection/face protection. Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT indue IF ON SKIN (OR HAIR): Take off immediately	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after ated area. Wear protective gloves/protective	
Label elements Signal word Hazard statement Precautionary statement Prevention	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila clothing/eye protection/face protection. Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induc IF ON SKIN (OR HAIR): Take off immediately water.	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after ated area. Wear protective gloves/protective ce vomiting. all contaminated clothing. Rinse skin with	
Label elements Signal word Hazard statement Precautionary statement Prevention	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila clothing/eye protection/face protection. Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce IF ON SKIN (OR HAIR): Take off immediately water. Wash contaminated clothing before reuse.	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after ated area. Wear protective gloves/protective ce vomiting. all contaminated clothing. Rinse skin with keep comfortable for breathing.	
Label elements Signal word Hazard statement Precautionary statement Prevention	Danger May be corrosive to metals. Causes severe sk irritation. Keep only in original container. Do not breather handling. Use only outdoors or in a well-ventila clothing/eye protection/face protection. Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce IF ON SKIN (OR HAIR): Take off immediately water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and IF IN EYES: Rinse cautiously with water for se	ion 12 of the SDS for additional information. in burns and eye damage. May cause respiratory e mist or vapor. Wash skin thoroughly after ated area. Wear protective gloves/protective ce vomiting. all contaminated clothing. Rinse skin with keep comfortable for breathing. veral minutes. Remove contact lenses if	

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified	A May cause pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus, and possibly the digestive tract.
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Sulfuric acid	Hydrogen sulfate; Oil of vitriol	7664-93-9	0.1–5
4. First-aid measures			
nhalation	Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.		
Skin contact	Immediately flush skin with running water for at least 20 minutes. Immediately take off all contaminated clothing. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.		
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.		
ngestion	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/effects, acute and delayed	Direct skin contact may cause corrosive skin scarring. Direct contact with concentrated sol severe damage, including blindness. Sympto and blurred vision.	utions may be corrosive to th	e eyes and may caus
	Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.		
	Ingestion may produce burns to the lips, oral digestive tract. Symptoms may include abdor		
ndication of immediate	Provide general supportive measures and tre	at symptomatically.	
medical attention and special treatment needed	Chemical burns: Flush with water immediatel adhere to affected area. Call an ambulance. person under observation. Symptoms may be	Continue flushing during trans	
General information	Ensure medical personnel are aware of the mathematical the mathematical the mathematical the mathematical second s	naterial(s) involved and take p	precautions to protect
5. Firefighting measures			
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carb	oon dioxide.	
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as th	is will spread the fire.	
Specific hazards arising from the chemical	During fire, gases hazardous to health may b	e formed.	
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full p	-	
Firefighting equipment/instructions	Firefighters should wear full protective gear. If to avoid exposure to combustion products. Co water inside container. Move containers from extinguishing water from contaminating surfa	ool containers/tanks with wat fire area if it can be done wit	er spray. Do not get hout risk. Prevent fire
Specific methods	Use standard firefighting procedures and con	sider the hazards of other inv	volved materials.
General fire hazards	Not combustible; however, the product can re hydrogen gas.	eact with metals to form flamr	nable and explosive

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for	This product is miscible in water.
containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from metals and other incompatibles. Observe good industrial hygiene practices. Label containers appropriately.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive-resistant container with a corrosive-resistant inner liner. Store in original tightly closed container. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)	PEL	1 mg/m ³	Not applicable
U.S. ACGIH Threshold Limit V	alues		
Components	Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³	Thoracic fraction
U.S. NIOSH: Pocket Guide to	Chemical Hazards		
Components	Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³	Not applicable
Biological limit values	No biological exposure limits note	d for the ingredient(s)	
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.		
ndividual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shide shide shide shide shide a shide shide a shide sh		
Skin protection			
Hand protection	Wear appropriate chemical-resista	ant gloves. Advice should be so	ought from glove suppliers.
Other	Wear appropriate chemical-resista	ant 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.
Thermal hazards	When necessary, wear appropriate thermal protective clothing.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination.

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear, colorless, or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	1.3
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	100%
Specific gravity	1.00

10. Stability and reactivity

Reactivity Chemical stability This product is stable and nonreactive under normal conditions of use, storage, transport. Material is stable under normal conditions. Decomposes at ~ $644^{\circ}F$ ($340^{\circ}C$) to form sulfur trioxide.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Direct sunlight. Do not use in areas without adequate ventilation.
Incompatible materials	Metal compounds. Nitromethane. Oxidizing agents. Sugars.
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

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

Components	Species	Test Results
Sulfuric acid (CAS 7664-93-9)		
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	0.375 mg/L, 4 hours (mist)
Oral		
LD ₅₀	Rat	2140 mg/kg
Deionized water (CAS 7732-18-5)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage	
Serious eye damage/eye irritation	Causes serious eye damage	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	

This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH. Carcinogenicity Occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans. The information located is insufficient to conclude that sulfuric acid itself is a carcinogen. IARC has concluded there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans (Group 1). ACGIH has designated strong inorganic acid mists containing sulfuric acid as A2 (suspected human carcinogen). NTP has listed strong inorganic acid mists containing sulfuric acid as a known human carcinogen. These classifications are for inorganic acid mists containing sulfuric acid and do not apply to sulfuric acid or sulfuric acid solutions. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096) Not regulated Reproductive toxicity This product is not expected to cause reproductive or developmental effects. Specific target organ toxicity, May cause respiratory irritation single exposure Specific target organ toxicity, Not classified as a specific target organ toxicity - repeated exposure repeated exposure Aspiration toxicity Not expected to be an aspiration hazard Chronic effects Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

12. Ecological information

Ecotoxicity

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

Components	Species	Test Results
Sulfuric acid (CAS 7664-93-9) – Aquatic		
Acute		
Algae		
EC ₅₀	Green algae (Pseudokirchneriella subcapitata)	>100 mg/L, 72 hours
Crustacea		
EC ₅₀	Water flea (Daphnia magna)	29 mg/L, 24 hours
Fish		
LC ₅₀	Bluegill (Lepomis macrochirus)	16–28 mg/L, 96 hours
Persistence and degradability	Not available	
Bioaccumulative potential	Not available	
Mobility in soil	High water solubility indicates a high mob	ility in soil.
Other adverse effects		e.g., ozone depletion, photochemical ozone creation ming potential) are expected from this component.
13. Disposal consideration	ns	
Disposal instructions	•	d containers at licensed waste disposal site. Dispose of al/regional/national/international regulations.

	contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose of in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT	
UN number	UN3264
UN proper shipping name	Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)
Transport hazard class(es)	
Class	8

Subsidiary risk Label(s) Packing group Special precautions for user Special provisions Packaging exceptions Packaging, non-bulk Packaging, bulk	Not listed 8 III Read safety instructions, SDS, and emergency procedures before handling. IB3, T7, TP1, TP28 154 203 241
IATA	211
UN number UN proper shipping name Transport hazard class(es)	UN3264 Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)
Class	8
Subsidiary risk	Not listed
Packing group Environmental hazards	III Not listed
ERG code	8L
Special precautions for user Other information	•-
Passenger and cargo aircraft	Allowed
Cargo aircraft only	Allowed
IMDG	
UN number	UN3264
UN proper shipping name Transport hazard class(es)	Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)
Class	8
Subsidiary risk	Not listed
Packing group	III
Environmental hazards	Not listed
Marine pollutant EmS	Not listed F-A, S-B
Special precautions for user	
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	\land

CORROSIN

8

IATA; IMDG

15. Regulatory information

U.S. federal regulations

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

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

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

Not regulated

Sulfuric acid (CAS	7664-93-9)				
SARA 304 Emergency	/ Release Notificati	on			
Sulfuric acid (CAS	7664-93-9)	1000 lb.			
OSHA Specifically Re	gulated Substance	s (29 CFR 1910	.1001-1096)		
Not regulated					
uperfund Amendments a Hazard categories	Immediate Delayed ha Fire hazaro Pressure h	hazard – yes azard – no	SARA)		
SARA 302 Extremely	-	-			
Chemical name	CAS number	Reportable quantity (lb.)	Threshold planning quantity (lb.)	Threshold planning quantity lower value	Threshold planning quantity upper value
Sulfuric acid	7664-93-9	1000	1000	Not applicable	Not applicable
SARA 311/312 Hazard Not regulated	lous Chemical				
SARA 313 (TRI report	•				
Chemical name	CAS number	% by weight			
Sulfuric acid	7664-93-9	0.1–5			
ther federal regulations					
Not regulated Clean Air Act (CAA) S Clean Air Act (CAA) S	Section 112 Hazardo			8.130)	
Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS	Section 112(r) Accid 7664-93-9)	lental Release F	Prevention (40 CFR 6	-	0 04(f)(2) and Chemi
Not regulated Clean Air Act (CAA) S	Section 112(r) Accid 7664-93-9)	lental Release F	Prevention (40 CFR 6	-	0.04(f)(2) and Chemi
Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad	Section 112(r) Accid 57664-93-9) Iministration (DEA) 57664-93-9)	dental Release F . List 2, Essenti 6552	Prevention (40 CFR 6 al Chemicals (21 CFI	R 1310.02(b) and 1310	
Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number Sulfuric acid (CAS	Section 112(r) Accid 5 7664-93-9) Iministration (DEA) 5 7664-93-9) Iministration (DEA) 5 7664-93-9)	dental Release F . List 2, Essenti 6552 . List 1 & 2 Exe 20% W/V	Prevention (40 CFR 6 al Chemicals (21 CFI	R 1310.02(b) and 1310	
Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number Sulfuric acid (CAS Drug Enforcement Ad Sulfuric acid (CAS DEA Exempt Chemica Sulfuric acid (CAS Safe Drinking Water A	Section 112(r) Accid 5 7664-93-9) Iministration (DEA) 5 7664-93-9) Iministration (DEA) 5 7664-93-9) al Mixtures Code No 5 7664-93-9)	dental Release F . List 2, Essenti 6552 . List 1 & 2 Exe 20% W/V	Prevention (40 CFR 6 al Chemicals (21 CFI	R 1310.02(b) and 1310	
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International inventories

Country(ies) or region Inventory name

On inventory

		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits



SAFETY DATA SHEET

1. Identification

Product identifier	Base Demand Reagent (BDR)
Product code	R-0006	
Recommended use	Use as directed by manufactur	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/D	istributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Health hazards	Eye damage/irritation	Category 2A
Environmental hazards	Not currently regulated by OSHA.	For additional information, refer to section 12 of the SDS.
Label elements	\mathbf{A}	



	•
Signal word	Warning
Hazard statement	Causes serious eye irritation
Precautionary statement	
Prevention	Wash skin thoroughly after handling. Wear eye protection/face protection.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
Storage	None required
Disposal	None required
Hazard(s) not otherwise classified	None
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Sodium carbonate	Soda ash; Bisodium carbonate	497-19-8	0.1–5

4. First-aid measures	
Inhalation	Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.
Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
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.
Ingestion	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Most important symptoms/effects, acute	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.
and 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.
Indication of 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.
5. Firefighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted
Hazardous combustion products	Carbon oxides. Sodium oxides. Other irritating fumes and smoke.
6. Accidental release meas	sures
Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

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

7. Handling and storage				
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.			
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive-resistant container with a corrosive-resistant inner liner. Store in original tightly closed container. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS).			
8. Exposure controls/perso	onal protection			
Occupational exposure limits	No occupational exposure limits noted for the ingredient(s)			
Biological limit values	No biological exposure limits noted for the ingredient(s)			
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.			
Individual protection measures, such as personal protective equipment				
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.			
Skin protection				
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.			
Other	Wear appropriate chemical-resistant 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 fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.			
Thermal hazards	When necessary, wear appropriate thermal protective clothing.			
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination.			

9. Physical and chemical properties

-	-
Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	11.2
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable

Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	99%
Specific gravity	1.00

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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	Aluminum. Ammonia. Fluorine. Lithium. Phosphorous pentoxide. Silver nitrate. Strong acids.
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the res	spiratory system	
Skin contact	May cause slight or mild trans	sient irritation	
Eye contact	May cause serious eye irritat	ion	
Ingestion	May cause irritation, nausea,	vomiting, and diarrhea	
Most important symptoms/effects, acute	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.		
and 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 acute toxicity data.	as an acute toxicity hazard. See below for individual ingredient	
Components	Species	Test Results	
Sodium carbonate (CAS 497-			
Acute			
Dermal			
LD ₅₀	Rabbit	>2000 mg/kg	
Inhalation			
LC ₅₀	Rat	2.3 mg/L, 4 hours (dust)	
Oral			

2800 mg/kg

Rat

 LD_{50}

Deionized water (CAS 7732-18-5)		
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	Causes skin irritation	
Serious eye damage/eye irritation	Causes severe eye irritation	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	
Carcinogenicity	This product is not considered to be a carcinoge	en by IARC, NTP, OSHA, or U.S. ACGIH.
OSHA Specifically Regulated	Substances (29 CFR 1910.1001-1096)	
Not regulated		
Reproductive toxicity	This product is not expected to cause reproduct	ive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity	– single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity	 repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard	
Chronic effects	Frequent or prolonged contact may dry the skin	, leading to discomfort and dermatitis.

12. Ecological information

Ecotoxicity

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

possibility that large or frequent spills can have a harmful or damaging effect on the environme		
Components	Species	Test Results
Sodium carbonate (CAS 497-19-	8)	
Acute		
Crustacea		
EC ₅₀	Water flea (Ceriodaphnia dubia)	200 mg/L, 48 hours
Fish		
LC ₅₀	Western mosquito fish (Gambusia affinis)	740 mg/L, 96 hours
Persistence and degradability	Not available	
Bioaccumulative potential	Not available	
Mobility in soil	Not available	
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	
13. Disposal consideration	IS	
Disposal instructions	Collect and reclaim or dispose in sealed conta contents/container in accordance with local/reg	iners at licensed waste disposal site. Dispose of gional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regu	lations.
Hazardous waste code	The waste code should be assigned in discuss disposal company.	ion with the user, the producer, and the waste

Waste from residues/unused	Empty containers or liners may retain some product residues. This material and its container
products	must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal

taminated packaging Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods

IATA Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Transport in bulk according to Not available Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

io. Regulatory information	
U.S. federal regulations	This product is known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
	All components are on the U.S. EPA TSCA Inventory list.
TSCA Section 12(b) Expo	rt Notification (40 CFR 707, Subpt. D)
Not regulated	
CERCLA Hazardous Subs	tance (40 CFR 302.4)
Disodium phosphate (C	AS 7558-79-4)
SARA 304 Emergency Rel	ease Notification
Not regulated	
OSHA Specifically Regula	ted Substances (29 CFR 1910.1001-1096)
Not regulated	
Superfund Amendments and Hazard categories	Reauthorization Act of 1986 (SARA) Immediate hazard – yes Delayed hazard – no Fire hazard – no Pressure hazard – no Reactivity hazard – no
SARA 302 Extremely Haza	irdous Substance
Not regulated	
SARA 311/312 Hazardous	Chemical
Not regulated	
SARA 313 (TRI reporting)	
Not regulated	
Other federal regulations	
Clean Air Act (CAA) Section	on 112 Hazardous Air Pollutants (HAP)
Not regulated Clean Air Act (CAA) Section	on 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated Safe Drinking Water Act (S	SDWA)
Not regulated	
U.S. state regulations	
California Controlled Subs	stances. CA Department of Justice (California Health and Safety Code Section 11100)
-	inow Act ommunity Right-to-Know Act
	Community Right-to-Know Act
Not regulated Rhode Island Right-to-Kno Not regulated	ow Act
California Proposition 65	
California Safe Drinki	ng Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region Inventory name

On inventory

, , ,	2	
		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits

	PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average
	VOC: volatile organic compounds WEL: workplace exposure limit
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 changed, or 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	May2015
Last revision	May2015



SAFETY DATA SHEET

1. Identification		
Product identifier	Thiosulfate N/10	
Product code	R-0007	
Recommended use	Use as directed by manufacture	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle	
	Sparks, MD 21152	
	United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	· (800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	None required
Signal word	None required
Hazard statement	None required
Precautionary statement	
Prevention	None required
Response	None required
Storage	None required
Disposal	None required
Hazard(s) not otherwise classified None	
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Sodium thiosulfate pentahydrate	Thiosulfuric acid, disodium salt, pentahydrate; Sodium thiosulfate	10102-17-7	0.1–5
Other components below reportable levels			0.01–0.1

4. First-aid measures

Inhalation

Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
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.
Ingestion	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Indication of 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.
5. Firefighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted
Hazardous combustion products	Carbon oxides. Hydrogen sulfide. Sulfur oxides. Other irritating fumes and smoke.
6. Accidental release mea	sures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective

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. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits	No occupational exposure limits noted for the ingredient(s)		
Biological limit values	No biological exposure limits noted for the ingredient(s)		
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.		
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.		
Skin protection			
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.		
Other	Wear appropriate chemical-resistant 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 fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.		
Thermal hazards	When necessary, wear appropriate thermal protective clothing.		
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination. Avoid breathing mist or vapor.		

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	9.6
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (110°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³

Solubility(ies)		
Solubility (water)	Soluble in all proportions	
Partition coefficient (n-octanol/water)	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Other information		
Explosive properties	Not applicable	
Oxidizing properties	Not applicable	
Percent volatile	97%	
Specific gravity	1.00	

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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. Strong acids.
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

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Information on likely routes of	of exposure			
Inhalation	May cause irritation to the res	May cause irritation to the respiratory system		
Skin contact	May cause slight or mild transient irritation			
Eye contact	May cause temporary irritation			
Ingestion	May cause discomfort Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.			
Most important symptoms/effects, acute and delayed				
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.			
Product	Species	Test Results		
Sodium thiosulfate pentahydra	ate (CAS 10102-17-7)			
Acute				
Dermal				
LD ₅₀	Rabbit	Not available		
Inhalation				
LC ₅₀	Rat	Not available		
Oral				
LD ₅₀	Rat	>5000 mg/kg		
Deionized water (CAS 7732-1	8-5)			
Acute				
Dermal				
LD ₅₀	Rabbit	Not available		
Inhalation				
LC ₅₀	Rat	Not available		
Oral				
LD ₅₀	Rat	>89840 mg/kg		

Skin corrosion/irritation	May cause slight or mild transient irritation
Serious eye damage/eye irritation	May cause temporary irritation
Respiratory sensitization	Not expected to be a respiratory sensitizer
Skin sensitization	Not expected to be a skin sensitizer
Germ cell mutagenicity	Not expected to be mutagenic
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.
OSHA Specifically Regulated	Substances (29 CFR 1910.1001-1096)
Not regulated	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity – repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard
Chronic effects	Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.
12. Ecological information	
Ecotoxicity	This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	Not available
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.		
Local disposal regulations	Dispose in accordance with all applicable regulations.		
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.		
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).		
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.		

14. Transportation information

DOT

Not regulated as dangerous goods

ΙΑΤΑ Not regulated as dangerous goods

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IMDG
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Not regulated as dangerous goods

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

15. Regulatory information

U.S. federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

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

Not regulated

CERCLA Hazardous Substance (40 CFR 302.4) Not regulated SARA 304 Emergency Release Notification Not regulated OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096) Not regulated Superfund Amendments and Reauthorization Act of 1986 (SARA) **Hazard categories** Immediate hazard - no Delayed hazard - no Fire hazard - no Pressure hazard - no Reactivity hazard - no SARA 302 Extremely Hazardous Substance Not regulated SARA 311/312 Hazardous Chemical Not regulated SARA 313 (TRI reporting) Not regulated Other federal regulations Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAP) Not regulated Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated Safe Drinking Water Act (SDWA) Not regulated U.S. state regulations California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100) Not regulated Massachusetts Right-to-Know Act Not regulated New Jersey Worker and Community Right-to-Know Act Not listed Pennsylvania Worker and Community Right-to-Know Act Not listed Rhode Island Right-to-Know Act Not regulated **California Proposition 65** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region Inventory name

On inventory

		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Ricc	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits

	PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average
	VOC: volatile organic compounds WEL: workplace exposure limit
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 changed, or 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 revision	May 2015



SAFETY DATA SHEET

1. Identification

Product identifier	Total Alkalinity Indicator	
Product code	R-0008	
Recommended use	Use as directed by manufacture	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/D	istributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	
Label elements	None required	
Signal word	None required	
Hazard statement	None required	
Precautionary statement		
Prevention	None required	
Response	None required	
Storage	None required	
Disposal	None required	
Hazard(s) not otherwise classified None		
Supplemental information	None	

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Other components below reportable levels			0.1–5
4. First-aid measures			
Inhalation	Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.		
Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.		

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.
Ingestion	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Indication of 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.
5. Firefighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted
Hazardous combustion products	Carbon oxides. Other irritating fumes and smoke.

6. Accidental release measures

Personal precautions,	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of
protective equipment, and emergency procedures	low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits	No occupational exposure limits noted for the ingredient(s)	
Biological limit values	No biological exposure limits noted for the ingredient(s)	
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.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.	
Skin protection		
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.	
Other	Wear appropriate chemical-resistant 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 fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.	
Thermal hazards	When necessary, wear appropriate thermal protective clothing.	
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination. Avoid breathing mist or vapor.	

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Dark green
Odor	Odorless
Odor threshold	Not available
рН	8.5
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (110°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³

Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	99%
Specific gravity	1.00

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

The Toxicological informati			
Information on likely routes of ex	kposure		
Inhalation	May cause irritation to the respiratory system		
Skin contact	May cause slight or mild transient irritation		
Eye contact	May cause temporary irritation		
Ingestion	May cause discomfort		
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.		
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.		
Components	Species	Test Results	
Deionized water (CAS 7732-18-5))		
Acute			
Dermal			
LD ₅₀	Rabbit	Not available	
Inhalation			
LC ₅₀	Rat	Not available	
Oral			
LD ₅₀	Rat	>89840 mg/kg	
Skin corrosion/irritation	May cause slight or mild transient irritation		
Serious eye damage/eye irritation	May cause temporary irritation		
Respiratory sensitization	Not expected to be a respiratory sensitizer		
Skin sensitization	Not expected to be a skin sensitizer		
Germ cell mutagenicity	Not expected to be mutagenic		

Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)		
Not regulated		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure	
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity – repeated exposure	
Aspiration toxicity	Not expected to be an aspiration hazard	
Chronic effects	Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.	

12. Ecological information

Ecotoxicity	This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	High water solubility indicates a high mobility in soil.
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods IATA

Not regulated as dangerous goods IMDG

Not regulated as dangerous goods

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

15. Regulatory information

U.S. federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

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

Not regulated

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

. Hazard categories

Immediate hazard – no Delayed hazard – no Fire hazard – no Pressure hazard – no Reactivity hazard – no

SARA 302 Extremely Hazardous Substance

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

Other federal regulations

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

Not regulated

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

U.S. state regulations

California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region	Inventory name	On inventory
		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	no
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Ric	o Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds WEL: workplace exposure limit The information in the Safety Data Sheet is offered for your consideration and guidance for safe Disclaimer 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.

Issue date Last revision License granted to make unlimited paper copies for internal use only. This Safety Data Sheet may not be changed, or 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. April 2015

April 2015



SAFETY DATA SHEET

1. Identification			
Product identifier	Sulfuric Acid .12N		
Product code	R-0009		
Recommended use	Use as directed by manufacturer for purposes directly related to water testing.		
Recommended restrictions	None known		
Manufacturer/Importer/Supplier/D	istributor information		
Manufacturer			
Company name	Taylor Technologies, Inc.		
Address	31 Loveton Circle Sparks, MD 21152 United States		
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.	
Website	www.taylortechnologies.com		
E-mail	Not available		
Emergency phone number	(800) 837-8548		
2. Hazard(s) identification Physical hazards	Corrosive to metals	Category 1	
Health hazards	Eye damage/irritation	Category 1	
	Skin corrosion/irritation	Category 1C	
	Specific target organ toxicity, sin		
Environmental hazards	Not currently regulated by OSHA; refer to section 12 of the SDS for additional information.		
Label elements			
Signal word	Danger		
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. May cause respiratory irritation.		
Precautionary statement			
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.		
Response	Absorb spillage to prevent mater	al damage.	
	IF SWALLOWED: Rinse mouth.	Do NOT induce vomiting.	
	IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin water.		
	Wash contaminated clothing before reuse.		
	IF INHALED: Remove person to fresh air and keep comfortable for breathing.		
	IE IN EVES: Dinco coutiously wit	a water for several minutes. Remove contact lenses if	

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.

Storage Store locked up. Store in a corrosive-resistant container with a corrosive resistant liner.

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified	May cause pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus, and possibly the digestive tract.
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Sulfuric acid	Hydrogen sulfate; Oil of vitriol	7664-93-9	0.1–5
4. First-aid measures			
nhalation	Move to fresh air. Give oxygen or artificial res immediately.	spiration if needed. Get medic	al attention
Skin contact	Immediately flush skin with running water for at least 20 minutes. Immediately take off all contaminated clothing. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.		
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		
Ingestion	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/effects, acute and delayed	Direct skin contact may cause corrosive skin scarring. Direct contact with concentrated sol severe damage, including blindness. Sympto and blurred vision.	utions may be corrosive to th	e eyes and may cause
	Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.		
	Ingestion may produce burns to the lips, oral digestive tract. Symptoms may include abdor		
ndication of immediate	Provide general supportive measures and tre	at symptomatically.	
medical attention and special treatment needed	Chemical burns: Flush with water immediatel adhere to affected area. Call an ambulance. person under observation. Symptoms may be	Continue flushing during trans	
General information	Ensure medical personnel are aware of the mathematical the mathematical the mathematical the mathematical second sec	naterial(s) involved and take p	precautions to protect
5. Firefighting measures			
Suitable extinguishing media	ia Water fog. Foam. Dry chemical powder. Carbon dioxide.		
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.		
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.		
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.		
Firefighting equipment/instructions	Firefighters should wear full protective gear. It to avoid exposure to combustion products. Co water inside container. Move containers from extinguishing water from contaminating surfa	ool containers/tanks with wat fire area if it can be done wit	er spray. Do not get hout risk. Prevent fire
Specific methods	Use standard firefighting procedures and con	sider the hazards of other inv	olved materials.
General fire hazards	Not combustible; however, the product can re hydrogen gas.	eact with metals to form flamr	nable and explosive

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for	This product is miscible in water.
containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from metals and other incompatibles. Observe good industrial hygiene practices. Label containers appropriately.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive-resistant container with a corrosive-resistant inner liner. Store in original tightly closed container. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)	PEL	1 mg/m ³	Not applicable
U.S. ACGIH Threshold Limit V	alues		
Components	Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³	Thoracic fraction
U.S. NIOSH: Pocket Guide to	Chemical Hazards		
Components	Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³	Not applicable
Biological limit values	No biological exposure limits note	d for the ingredient(s)	
controls	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.		
ndividual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.		
Skin protection			
Hand protection	Wear appropriate chemical-resista	ant gloves. Advice should be so	ought from glove suppliers.
Other	Wear appropriate chemical-resista		

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.
Thermal hazards	When necessary, wear appropriate thermal protective clothing.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination.

9. Physical and chemical properties

· · · · · · · · · · · · · · · · · · ·	
Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	1.3
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	100%
Specific gravity	1.00

10. Stability and reactivity

Reactivity Chemical stability This product is stable and nonreactive under normal conditions of use, storage, transport. Material is stable under normal conditions. Decomposes at ~ $644^{\circ}F$ ($340^{\circ}C$) to form sulfur trioxide.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Direct sunlight. Do not use in areas without adequate ventilation.
Incompatible materials	Metal compounds. Nitromethane. Oxidizing agents. Sugars.
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

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

Components	Species	Test Results
Sulfuric acid (CAS 7664-93-9)		
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	0.375 mg/L, 4 hours (mist)
Oral		
LD ₅₀	Rat	2140 mg/kg
Deionized water (CAS 7732-18-5	5)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage	
Serious eye damage/eye irritation	Causes serious eye damage	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	

This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH. Carcinogenicity Occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans. The information located is insufficient to conclude that sulfuric acid itself is a carcinogen. IARC has concluded there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans (Group 1). ACGIH has designated strong inorganic acid mists containing sulfuric acid as A2 (suspected human carcinogen). US NTP has listed strong inorganic acid mists containing sulfuric acid as a known human carcinogen. These classifications are for inorganic acid mists containing sulfuric acid and do not apply to sulfuric acid or sulfuric acid solutions. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096) Not regulated **Reproductive toxicity** This product is not expected to cause reproductive or developmental effects. Specific target organ toxicity, May cause respiratory irritation single exposure Specific target organ toxicity, Not classified as a specific target organ toxicity - repeated exposure repeated exposure Aspiration toxicity Not expected to be an aspiration hazard Chronic effects Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

12. Ecological information

Ecotoxicity

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

		5 5
Components	Species	Test Results
Sulfuric acid (CAS 7664-93-9) -	Aquatic	
Acute		
Algae		
EC ₅₀	Green algae (Pseudokirchneriella subcapitata)	>100 mg/L, 72 hours
Crustacea		
EC ₅₀	Water flea (Daphnia magna)	29 mg/L, 24 hours
Fish		
LC ₅₀	Bluegill (Lepomis macrochirus)	16–28 mg/L, 96 hours
Persistence and degradability	Not available	
Bioaccumulative potential	Not available	
lobility in soil	High water solubility indicates a high mobility in soil.	
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose of in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose of in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT	
UN number	UN3264
UN proper shipping name	Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)
Transport hazard class(es) Class	0
Subsidiary risk	o Not listed
Subsidiary lisk	NOUISIEU

Label(s) Packing group Special precautions for user Special provisions Packaging exceptions	8 III Read safety instructions, SDS, and emergency procedures before handling. IB3, T7, TP1, TP28 154
Packaging, non-bulk	203
Packaging, bulk IATA	241
UN number	UN3264
UN proper shipping name	Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)
Transport hazard class(es)	
Class	8
Subsidiary risk	Not listed
Packing group	
Environmental hazards	Not listed
ERG code	8L
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed
Cargo aircraft only	Allowed
IMDG	
UN number	UN3264
UN proper shipping name Transport hazard class(es)	Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)
Class	8
Subsidiary risk	Not listed
Packing group	
Environmental hazards	
Marine pollutant	Not listed
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This substance/mixture is not intended to be transported in bulk.

DOT



IATA; IMDG

15. Regulatory information

U.S. federal regulations

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

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

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

Not regulated

Sulfuric acid (CAS	7664-93-9)				
SARA 304 Emergency	y Release Notificat	tion			
Sulfuric acid (CAS	7664-93-9)	1000 lb			
OSHA Specifically Re	egulated Substanc	es (29 CFR 1910	.1001-1096)		
Not regulated					
perfund Amendments a Hazard categories	Immediate Delayed H Fire haza Pressure	e hazard – yes nazard – no	SARA)		
SARA 302 Extremely	-	-			
Chemical name	CAS number	Reportable quantity (Ib.)	Threshold planning quantity (lb.)	Threshold planning quantity lower value	Threshold planning quantity upper value
Sulfuric acid	7664-93-9	1000	1000	Not applicable	Not applicable
SARA 311/312 Hazard	dous Chemical				
Not listed					
SARA 313 (TRI report	ting)				
Chemical name	CAS number	% by weight			
Sulfuric acid	7664-93-9	0.1–5			
Clean Air Act (CAA) S Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS	Section 112 Hazarc Section 112(r) Acci S 7664-93-9)	dental Release	Prevention (40 CFR 6	-	0 04(f)(2) and Chem
Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number	Section 112 Hazard Section 112(r) Acci S 7664-93-9) dministration (DEA	dental Release I .). List 2, Essent	Prevention (40 CFR 6	-	0.04(f)(2) and Cherr
Clean Air Act (CAA) S Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number Sulfuric acid (CAS	Section 112 Hazard Section 112(r) Acci S 7664-93-9) dministration (DEA S 7664-93-9)	dental Release .). List 2, Essent 6552	Prevention (40 CFR 6 ial Chemicals (21 CFI	R 1310.02(b) and 131	
Clean Air Act (CAA) S Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number	Section 112 Hazard Section 112(r) Acci 5 7664-93-9) dministration (DEA 5 7664-93-9) dministration (DEA 5 7664-93-9)	dental Release .). List 2, Essent 6552 .). List 1 & 2 Exe 20% W/V	Prevention (40 CFR 6 ial Chemicals (21 CFI	R 1310.02(b) and 131	
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Clean Air Act (CAA) S Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number Sulfuric acid (CAS Drug Enforcement Ad Sulfuric acid (CAS DEA Exempt Chemica Sulfuric acid (CAS Safe Drinking Water A	Section 112 Hazard Section 112(r) Acci S 7664-93-9) dministration (DEA S 7664-93-9) dministration (DEA S 7664-93-9) al Mixtures Code N S 7664-93-9)	dental Release I a). List 2, Essent 6552 a). List 1 & 2 Exe 20% W/V lumber	Prevention (40 CFR 6 ial Chemicals (21 CFI	R 1310.02(b) and 131	
Clean Air Act (CAA) S Not regulated Clean Air Act (CAA) S Sulfuric acid (CAS Drug Enforcement Ad Code Number Sulfuric acid (CAS Drug Enforcement Ad Sulfuric acid (CAS DEA Exempt Chemica Sulfuric acid (CAS Safe Drinking Water A Not regulated	Section 112 Hazard Section 112(r) Acci S 7664-93-9) dministration (DEA S 7664-93-9) dministration (DEA S 7664-93-9) al Mixtures Code N S 7664-93-9) Act (SDWA)	dental Release I 6552 .). List 2, Essent 6552 .). List 1 & 2 Exe 20% W/V lumber 6552	Prevention (40 CFR 6 ial Chemicals (21 CFI mpt Chemical Mixtur	R 1310.02(b) and 131 es (21 CFR 1310.12(c	;))
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International inventories

Country(ies) or region Inventory name

On inventory

		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits

	PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds
Disclaimer	WEL: workplace exposure limit 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 changed, or 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
Issue date Last revision	the most current data available. April 2015 April 2015



SAFETY DATA SHEET

1. Identification		
Product identifier	Calcium Buffer	
Product code	R-0010	
Recommended use	Use as directed by manufacture	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/I	Distributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle	
	Sparks, MD 21152	
	United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Eye damage/irritation	Category 1
	Skin corrosion/irritation	Category 1B
Environmental hazards	Not currently regulated by OSHA; r	efer to section 12 of the SDS for additional information.
Label elements		

Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage.
Precautionary statement	
Prevention	Keep only in original container. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist or vapor. Wash thoroughly after handling.
Response	Absorb spillage to prevent damage.
	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water.
	Wash contaminated clothing before reuse.
	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	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.
Storage	Store locked up.
Disposal	None
Hazard(s) not otherwise classifie	ed None
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Mixtures			
Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Sodium hydroxide	Caustic soda; Lye; Soda lye; Caustic soda solution; Soda lye solution	1310-73-2	0.1–5
4. First-aid measures			
Inhalation	Move to fresh air. Give oxygen or artificial res immediately.	piration if needed. Get medic	al attention
Skin contact	Immediately flush skin with running water for contaminated clothing. Call a physician or po must be treated by a physician. Wash contan	ison control center immediate	ely. Chemical burns
Eye contact	Immediately flush eyes with plenty of water for present and easy to do. Continue rinsing. Cal		
Ingestion	Call a physician or poison control center imm mouth to a person who is unconscious or is h directed by physician. If vomiting occurs, kee into the lungs.	aving convulsions. Do NOT i	nduce vomiting unless
Most important symptoms/effects, acute and delayed	Direct skin contact may cause corrosive skin scarring. Direct contact with concentrated sol severe damage including blindness. Symptor and blurred vision.	utions may be corrosive to th	e eyes and may cause
	Inhalation of mists can cause severe respirate choking, and wheezing. Inhalation could resu Symptoms of pulmonary edema (chest pain,	It in pulmonary edema (fluid a	accumulation).
	Ingestion may produce burns to the lips, oral digestive tract. Symptoms may include abdor		
Indication of immediate	Provide general supportive measures and tre	at symptomatically.	
medical attention and special treatment needed	Chemical burns: Flush with water immediatel adhere to affected area. Call an ambulance. person under observation. Symptoms may be	Continue flushing during trans	
General information	Ensure medical personnel are aware of the mathematical the mathematical the mathematical the mathematical second sec	naterial(s) involved and take p	precautions to protect
5. Firefighting measures			
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carb	on dioxide.	
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as th	is will spread the fire.	
Specific hazards arising from the chemical	During fire, gases hazardous to health may b	e formed.	
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full p	rotective clothing must be wo	rn in case of fire.
Firefighting equipment/instructions	Firefighters should wear full protective gear. It to avoid exposure to combustion products. Converter inside container. Move containers from extinguishing water from contaminating surface	ool containers/tanks with wate fire area if it can be done wit	er spray. Do not get hout risk. Prevent fire-
Specific methods	Use standard firefighting procedures and con	sider the hazards of other inv	olved materials.
General fire hazards	Not combustible; however, the product can re hydrogen gas.	eact with metals to form flamn	nable and explosive
Hazardous combustion products	Sodium oxides. Other irritating fumes and sm	oke.	

6. Accidental release measures

6. Accidental release meas	sures
Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for	This product is miscible in water.
containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. Dilute base with water and neutralize with dilute acid. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from metals and other incompatibles. Observe good industrial hygiene practices. Label containers appropriately.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive-resistant container with a corrosive-resistant inner liner. Store in original tightly closed container. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Туре	Value	Form
Sodium hydroxide (CAS 1310-	73-2) PEL	2 mg/m ³	Not applicable
U.S. ACGIH Threshold Limit	Values		
Components	Туре	Value	Form
Sodium hydroxide (CAS 1310-	73-2) Ceiling	2 mg/m ³	Not applicable
U.S. NIOSH: Pocket Guide to	Chemical Hazards		
Components	Туре	Value	Form
Sodium hydroxide (CA 1310-73	B-2) Ceiling	2 mg/m ³	Not applicable
Biological limit values	No biological exposure limits note	d for the ingredient(s)	
Appropriate engineering controls	Good general ventilation (typically should be matched to conditions. or other engineering controls to m exposure limits have not been est Eyewash facilities and emergency	If applicable, use process enclo aintain airborne levels below re ablished, maintain airborne leve	soures, local exhaust ventilation, commended exposure limits. If els to an acceptable level.
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shie eyewash fountain and quick-drend		
Skin protection			
Hand protection	Wear appropriate chemical-resista	ant gloves. Advice should be so	ught from glove suppliers.
Other	Wear appropriate chemical-resista	ant clothing.	
Respiratory protection	In case of insufficient ventilation, v approved respirator if there is a ris limits. Advice should be sought fro	vear suitable respiratory equipr sk of exposure to dust/fumes at	levels exceeding the exposure

Thermal hazardsWhen necessary, wear appropriate thermal protective clothing.General hygiene
considerationsAlways observe good personal hygiene measures, such as washing after handling the material
and before eating, drinking and/or smoking. Routinely wash work clothing and protective
equipment to remove contamination.

9. Physical and chemical properties

5. Thysical and chemical p	loperties
Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	13.1
Melting point/freezing point	Not available
Initial boiling point and boiling range	230°F (110°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.20 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	98%
Specific gravity	1.20

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. This product may react with oxidizing agents.
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Metal compounds. Nitromethane. Oxidizing agents. Strong acids. Sugars.

Hazardous decomposition products

11. Toxicological information

Information on likely routes of ex	xposure		
Inhalation	May cause irritation to the respiratory system		
Skin contact	Causes severe skin burns		
Eye contact	Causes serious eye damage		
Ingestion	Causes digestive tract burns		
Most important symptoms/effects, acute and delayed	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring. Direct contact with concentrated solutions may be corrosive to the eyes and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.		
	Inhalation of mists can cause severe respirator choking, and wheezing. Inhalation could result Symptoms of pulmonary edema (chest pain, sl	in pulmonary edema (fluid accumulation).	
		avity, upper airway, esophagus, and possibly the inal pain, vomiting, burns, perforations, bleeding.	
Acute toxicity	This product is not classified as an acute toxici acute toxicity data.	ty hazard. See below for individual ingredient	
Components	Species	Test Results	
Sodium hydroxide (CAS 1310-73	-2)		
Acute			
Dermal			
LD ₅₀	Rabbit	Not available	
Inhalation			
LC ₅₀	Rat	Not available	
Oral	_ /		
LD ₅₀	Rat	140–340 mg/kg	
Deionized water (CAS 7732-18-5)		
Acute			
Dermal	Dath	Neteurilekie	
LD ₅₀ Inhalation	Rabbit	Not available	
	Rat	Not available	
LC ₅₀ Oral	Rat	Not available	
	Rat	>89840 mg/kg	
Skin corrosion/irritation	Causes severe skin burns and eye damage	203040 mg/kg	
Serious eye damage/eye	Causes serious eye damage		
irritation	Causes serious eye damage		
Respiratory sensitization	Not expected to be a respiratory sensitizer		
Skin sensitization	Not expected to be a skin sensitizer		
Germ cell mutagenicity	Not expected to be mutagenic		
Carcinogenicity	This product is not considered to be a carcinog	gen by IARC, NTP, OSHA or U.S. ACGIH.	
OSHA Specifically Regulated	d Substances (29 CFR 1910.1001-1096)		
Not regulated			
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.		
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure		
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity	Not classified as a specific target organ toxicity – repeated exposure	
Aspiration toxicity	Not expected to be an aspiration hazard		
Chronic effects	Frequent or prolonged contact may defat and o	dry the skin, leading to discomfort and dermatitis.	

12. Ecological information

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

		8 8
Components	Species	Test Results
Sodium hydroxide (CAS 1310-73	8-2) – Aquatic	
Acute		
Crustacea		
EC ₅₀	Water flea (Daphnia magna)	40 mg/L, 48 hours
Persistence and degradability	Not available	
Bioaccumulative potential	Not available	
Mobility in soil	Not available	
Other adverse effects		(e.g., ozone depletion, photochemical ozone creation arming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose of in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose of in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT	
UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	Not listed
Label(s)	8
Packing group	I
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Special provisions	A6, T14, TP2, TP27
Packaging exceptions	Not listed
Packaging, non-bulk	201
Packaging, bulk	243
ΙΑΤΑ	
UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	Not listed
Packing group	I
Environmental hazards	Not listed
ERG code	8L
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Other information	
Passenger and cargo	Allowed
aircraft	
Cargo aircraft only	Allowed
IMDG	
UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	Not listed
Packing group	II

Environmental hazards Marine pollutant EmS Special precautions for user Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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



IATA; IMDG

DOT

15. Regulatory information

U.S. federal regulations

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

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

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

Not regulated

CERCLA Hazardous Substance (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)

SARA 304 Emergency Release Notification

Not regulated OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA) Hazard categories Immediate hazard – yes

Immediate hazard – yes Delayed hazard – no Fire hazard – no Pressure hazard – no Reactivity hazard – yes

SARA 302 Extremely Hazardous Substance

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

Other federal regulations

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

Not regulated

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

U.S. state regulations

California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not regulated

- Massachusetts Right-to-Know Act
 - Sodium hydroxide (CAS 1310-73-2)
- New Jersey Worker and Community Right-to-Know Act
- Sodium hydroxide (CAS 1310-73-2)

Pennsylvania Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

Rhode Island Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes
** " " ' ' ' ' ' ' '		

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous	List of abbreviations	EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association
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	Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Waritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational Safety and Health Administration PEL: permissible exposure limits PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds WEL: workplace exposure limit
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Issue date	May 2015
Last revision	May 2015



SAFETY DATA SHEET

1. Identification

Product identifier	Calcium Indicator Liquid	
Product code	R-0011L	
Recommended use	Use as directed by manufacturer for purposes directly related to water testing.	
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/D	istributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Eye damage/irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	
Label elements		



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flamesNo smoking. Keep container tightly closed. Ground or bond container and receiving equipment. Use explosion-proof electrical/ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/eye protection/face protection. Wash skin thoroughly after handling. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area.
Response	IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower.
	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	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.
	Call a physician or poison control center if you feel unwell.
	IN CASE OF FIRE: Use alcohol-resistant foam. Water fog. Carbon dioxide. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Storage	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified None	
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%	
Triethanolamine	2,2',2"-Nitrilotriethanol;	102-71-6	75–80	
	Tris(2-hydroxyethyl)amine			
Isopropanol	Dimethyl carbinol; 2-Propanol;	67-63-0	20–25	
	Isopropyl alcohol	07-03-0	20-25	
	1-(2-Hydroxy-1-napthylazo)-2-napthol-4-sul	fonic		
Calcon	acid sodium salt;	2538-85-4	0.1–5	
	Mordant black 17	2000 00 1	0.1 0	
4. First-aid measures				
nhalation	Move to fresh air. Give oxygen or artificial res unwell.	piration if needed. Get medic	al attention if you feel	
Skin contact	Immediately flush skin with running water for at least 20 minutes. Immediately take off all contaminated clothing. Get medical attention if you feel unwell. Wash contaminated clothing before reuse.			
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. Get medical attention if irritation develops and persists			
ngestion	Call a physician or poison control center imm	ediately. 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/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.			
	Direct eye contact may cause 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. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness, and other central nervous system effects.			
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, diarrhea, as well as depression of the central nervous system.			
ndication of immediate	Provide general supportive measures and tre	at symptomatically.		
medical attention and	This product is a CNS depressant.			
special treatment needed General information	Ensure medical personnel are aware of the m themselves.	aterial(s) involved and take p	precautions to protect	
E Eirofighting macauraa				
5. Firefighting measures Suitable extinguishing media	Alcohol-resistant foam. Water fog. Carbon dio	kide. Dry chemical powder, ca	rbon dioxide, sand or	
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as thi	s will spread the fire.		
neola Specific hazards arising from he chemical	Vapors may form explosive mixtures with air. ' of ignition and flash back. This product is a po electrostatically charged. If sufficient charge is occur. To reduce potential static discharge, us fire, gases hazardous to health may be formed	or conductor of electricity and accumulated, ignition of flam e proper bonding and ground	l can be mable mixtures can	
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full pr		n in case of fire.	

Firefighting equipment/instructions	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor. 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. Vapors may travel considerable distance to a source of ignition and flash back.
Hazardous combustion products	Carbon oxides. Nitrogen oxides. Peroxides. Other irritating fumes and smoke.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.		
Methods and materials 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.		
	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.		
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.		
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.		
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.		
7. Handling and storage			
Precautions for safe handling	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 mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.		
Conditions for safe storage, including any incompatibilities	Store locked up. Store in vented containers. Keep away from heat, sparks, and open flames. This material can accumulate static charge which may cause a spark and become an ignition source. Prevent electrostatic charge buildup by using common bonding and grounding techniques. Store in a well-ventilated place. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS).		

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Туре	Value	Form
Isopropanol (CAS 67-63-0)	PEL	980 mg/m ³	Not applicable
		400 ppm	Not applicable
U.S. ACGIH Threshold Limit Values			
Components	Туре	Value	Form
Isopropanol (CAS 67-63-0)	STEL	400 ppm	Not applicable
	TWA	200 ppm	Not applicable
Triethanolamine (CAS 102-71-6)	TWA	5 mg/m ³	Not applicable

Components	Ţ	Гуре	Value	Form
Isopropanol (CAS 67-63-0)	5	STEL	1225 mg/m ³	Not applicable
			500 ppm 🪽	Not applicable
	Ţ	TWA	980 mg/m ³	Not applicable
			400 ppm	Not applicable
Biological limit values				
U.S. ACGIH Biological Expo	sure Indices			
Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/L	Acetone	Urine	Not available
Appropriate engineering controls	should be mate or other engine	ched to conditions. If appli eering controls to maintain	cable, use process en airborne levels below	build be used. Ventilation rates closures, local exhaust ventilation, recommended exposure limits. If evels to an acceptable level.
ndividual protection measures, such as personal protective equipment				
Eye/face protection		asses with side shields (or ain and quick-drench show		shield. Provide an emergency /ork area.
Skin protection				
Skin protection Hand protection	Wear appropri	ate chemical-resistant glov	ves. Advice should be	sought from glove suppliers.
•		ate chemical-resistant glov ate chemical-resistant clot		sought from glove suppliers.
Hand protection	Wear appropri In case of insu approved resp	ate chemical-resistant clot fficient ventilation, wear su	hing. itable respiratory equi posure to fumes at lev	pment. Use a NIOSH/MSHA /els exceeding the exposure
Hand protection Other	Wear appropri In case of insu approved resp limits. Advice s	ate chemical-resistant clot fficient ventilation, wear su irator if there is a risk of ex	hing. litable respiratory equi posure to fumes at lev piratory protection sup	pment. Use a NIOSH/MSHA vels exceeding the exposure pliers.

9. Physical and chemical properties

e. i nyelear and enemiear properties	
Appearance	
Physical state	Liquid
Form	Liquid
Color	Dark purple to dark blue
Odor	Alcohol-like
Odor threshold	Not available
рН	10.3
Melting point/freezing point	Not available
Initial boiling point and boiling range	500-600°F (260-315.56°C)
Flash point	64.0°F (17.8°C) Closed Cup
Evaporation rate	Not available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	2%
Flammability limit, upper (%)	12%
Explosive limit, lower (%)	Not available
Explosive limit, upper (%)	Not available
Vapor pressure	Not available
Vapor density	2

Relative density	1.02 g/cm ³	
Solubility(ies)		
Solubility (water)	Soluble in all proportions	
Partition coefficient (n-octanol/water)	Not available	
Auto-ignition temperature	Not available	
Decomposition temperature	Not available	
Viscosity	Not available	
Other information		
Explosive properties	Not applicable	
Oxidizing properties	Not applicable	
Percent volatile	99%	
Specific gravity	1.02	
10. Stability and reactivity		
Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.	
Chemical stability	Material is stable under normal conditions.	
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	Alkali metals. Aluminum. Oxidizing agents. Potassium t-butoxide. Some plastics. Strong acids.	
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.	
11. Toxicological informat	ion	
Information on likely routes of e	kposure	
Inhalation	May cause drowsiness and dizziness. May cause irritation to the respiratory system	

May cause drowsiness and diz	ziness. May cause irritation to the respiratory system.	
May cause slight or mild transient irritation		
May cause severe irritation		
May cause irritation, nausea, v	omiting, and diarrhea	
Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness 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. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness, and other central nervous system effects.		
This product is not classified a acute toxicity data.	s an acute toxicity hazard. See below for individual ingredient	
Species	Test Results	
Rabbit	12890 mg/kg	
Rat	Not available	
	Not available	
	Not available	
	May cause slight or mild transi May cause severe irritation May cause irritation, nausea, v Direct skin contact may cause and itching. Direct eye contact may cause tearing, redness, swelling, and Inhalation of mists can cause n breathing difficulties. May cause headache, nausea, vomiting, c Ingestion may cause gastrointe of the central nervous system. This product is not classified a acute toxicity data. Species Rabbit	

Triethanolamine (CAS 102-71-6))	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Mouse	5846 mg/kg
	Rabbit	2200 mg/kg
Deionized water (CAS 7732-18-5	5)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	Causes skin irritation	
Serious eye damage/eye irritation	Causes severe eye irritation	
Respiratory sensitization	Not expected to be a respiratory	/ sensitizer
Skin sensitization	Not expected to be a skin sens	itizer
Germ cell mutagenicity	Not expected to be mutagenic	
Carcinogenicity	This product is not considered t	o be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.
IARC Monographs. Overall	Evaluation of Carcinogenicity	
Triethanolamine	3 Not classifiable as to carcinog	genicity to humans
(CAS 102-71-6)		
OSHA Specifically Regulate	ed Substances (29 CFR 1910.100	1-1096)
Not regulated		
Reproductive toxicity	This product is not expected to	cause reproductive or developmental effects.
Specific target organ toxicity, single exposure	May cause drowsiness or dizzir	ness. May cause respiratory irritation.
Specific target organ toxicity, repeated exposure	Not classified as a specific targ	et organ toxicity – repeated exposure
Aspiration toxicity	Not expected to be an aspiratio	n hazard
Chronic effects		may dry the skin, leading to discomfort and dermatitis. Frequent or or vapors may cause chronic lung conditions such as bronchitis. osure may affect the kidneys.

12. Ecological information

Ecotoxicity

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

Components	Species	Test Results
Isopropanol (CAS 67-63-0) – Aquatic		
Acute		
Crustacea		
EC ₅₀	Water flea <i>(Daphnia magna)</i>	1400 mg/L, 48 hours
LC ₅₀	Fathead minnow (Pimephales promelas)	9640 mg/L, 96 hours
Chronic		
Crustacea		
NOEC	Water flea <i>(Daphnia magna)</i>	30 mg/L, 21 days

Triethanolamine (CAS 102-71-6) – Aquatic		
Acute		
Algae		
EC ₅₀	Green algae (Desmodesmus subspicatus)	512 mg/L, 72 hours
Crustacea		
EC ₅₀	Water flea (Ceriodaphnia affnis)	609.88 mg/L, 48 hours
Chronic		
Crustacea		
NOEC	Water flea (Daphnia magna)	16 mg/L, 21 days
Persistence and degradability	Not available	
Bioaccumulative potential		
Partition coefficient n-octane	ol / water (log K _{ow})	
Isopropanol	0.05	
Triethanolamine	-1	
Bioconcentration factor (BC	F)	
Isopropanol	1	
Mobility in soil	High water solubility indicates a high mobility in	i soil.
Other adverse effects	No other adverse environmental effects (e.g., o potential, endocrine disruption, global warming	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT	
UN number	UN1993
UN proper shipping name	Flammable liquids, N.O.S. (Isopropanol RQ = 100 lbs.)
Transport hazard class(es)	
Class	3
Subsidiary risk	Not listed
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Special provisions	IB2, T7, TP8, TP28
Packaging exceptions	150
Packaging, non-bulk	202
Packaging, bulk	242
ΙΑΤΑ	
UN number	UN1993
UN proper shipping name	Flammable liquids, N.O.S. (Isopropanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	Not listed
Packing group	
Environmental hazards	Not listed
ERG code	3H
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Other information	
Passenger and cargo	Allowed
aircraft	

Cargo aircraft only Allowed IMDG UN1993 **UN number** UN proper shipping name Flammable liquids, N.O.S. (Isopropanol) Transport hazard class(es) Class 3 Subsidiary risk Not listed Packing group Ш **Environmental hazards** Marine pollutant No EmS F-E, S-E 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 This substance/mixture is not intended to be transported in bulk. the IBC Code

FLAMMABLE LIQUID

IATA; IMDG

DOT

15. Regulatory information

U.S. federal regulations	All compon	ents are on the U.S. EPA TSCA Inventory list.	
TSCA Section 12(b) Ex	TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		
Not regulated			
CERCLA Hazardous Substance (40 CFR 302.4)			
Isopropanol (CAS 67-63-0)			
SARA 304 Emergency Release Notification			
Not regulated			
OSHA Specifically Reg	ulated Substances	s (29 CFR 1910.1001-1096)	
Not regulated			
Superfund Amendments an			
Hazard categories	Immediate Delayed ha	hazard – yes azard – po	
	Fire hazard		
	Pressure h		
CADA 202 Extremely H		nazard – no	
SARA 302 Extremely Ha	azaruous Substan		
Not regulated SARA 311/312 Hazardo	ua Chamiaal		
	us chemical		
Regulated			
SARA 313 (TRI reportin	•		
Chemical name	CAS number	% by weight	
Isopropanol	67-63-0	23	

Other federal regulations

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

Not regulated

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

U.S. state regulations

California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not regulated

Massachusetts Right-to-Know Act

Isopropanol (CAS 67-63-0) Triethanolamine (CAS 102-71-6)

New Jersey Worker and Community Right-to-Know Act

Isopropanol (CAS 67-63-0)

Triethanolamine (CAS 102-71-6)

Pennsylvania Worker and Community Right-to-Know Act

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Isopropanol (CAS 67-63-0)

Triethanolamine (CAS 102-71-6)

Rhode Island Right-to-Know Act

Isopropanol (CAS 67-63-0)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material contains a chemical known to cause cancer.

International inventories

Country(les) or region	Inventory name	On inventory
		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemical (NZloC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists
	AICS: Australian Inventory of Chemical Substances
	CAA: Clean Air Act
	CAS: Chemical Abstract Services
	CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
	CFR: Code of Federal Regulations
	CSA: Canadian Standards Association
	DEA: Drug Enforcement Agency
	DOT: Department of Transportation
	DSL: Domestic Substances List
	EC: effective concentration
	ECL: Existing Chemicals List
	EINECS: European Inventory of Existing Commercial Chemical Substances
	ELINCS: European List of Notified Chemical Substances

	ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Uniform Chemical Information Database LC: International Uniform Chemical Information Database LC: International Uniform Chemical Information Database LC: International Uniform Chemical Information Natabase LC: International Uniform Chemical Information Natabase LC: International Uniform Chemical Information Natabase LC: International Inform Chemical Information NDSI: Non-Domestic Substances List NFPA: National Fire Protection Association NIDSH: Non-Domestic Substances List NFPA: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Institute of Occupational Safety and Health NOEC: Organisation for Economic Co-operation and Development OEL: occupational Agency of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational Safety and Health Administration PEL: permissible exposure limits PICCS: Philippine Inventory of Chemicals and Chemical Substances PFE: personal protective equipment RCRA: Resource Conservation and Recovery Act RC: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Dinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volabile organic compounds
Disclaimer	WEL: workplace exposure limit 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 changed, or 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 revision	May 2015



1 Identification

SAFETY DATA SHEET

1. Identification		
Product identifier	Hardness Reagent	
Product code	R-0012	
Recommended use	Use as directed by manufacturer for purposes directly related to water testing.	
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/D	istributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Environmental hazards	tal hazards Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	
Label elements	None required	
Signal word	None required	
Hazard statement	None required	
Precautionary statement		
Prevention	None required	
Response	None required	
Storage	None required	
Disposal	None required	
Hazard(s) not otherwise classified None		
Supplemental information	None	

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Edetic acid	EDTA; Ethylenediaminetetraacetic acid	60-00-4	0.1–5
Other components below reportable levels			0.01–0.1

4. First-aid measures

Inhalation

Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
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.
Ingestion	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Indication of 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.
5. Firefighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted
Hazardous combustion products	Nitrogen oxides. Sodium oxides. Other irritating fumes and smoke.
6. Accidental release mea	sures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.	
Methods and materials for containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.	
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.	
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.	
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.	
7. Handling and storage		
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.	

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

o. Exposure controls/personal protection		
Occupational exposure limits	No occupational exposure limits noted for the ingredient(s)	
Biological limit values	No biological exposure limits noted for the ingredient(s)	
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.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.	
Skin protection		
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.	
Other	Wear appropriate chemical-resistant 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 fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.	
Thermal hazards	When necessary, wear appropriate thermal protective clothing.	
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination. Avoid breathing mist or vapor.	

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	8.1
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	

Solubility (water)	Soluble in all proportions	
Partition coefficient (n-octanol/water)	Not available	
Auto-ignition temperature	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not available	
Other information		
Explosive properties	Not applicable	
Oxidizing properties	Not applicable	
Percent volatile	99%	
Specific gravity	1.00	

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on	likely routes o	f exposure
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Inhalation	May cause irritation to the respiratory system
Skin contact	May cause slight or mild transient irritation
Eye contact	May cause temporary irritation
Ingestion	May cause discomfort
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.

Components	Species	Test Results	
Edetic acid (CAS 60-00-4)	-		
Acute			
Dermal			
LD ₅₀	Rabbit	Not available	
Inhalation			
LC ₅₀	Rat	Not available	
Oral			
LD_{50}	Rat	>2000 mg/kg	
Deionized water (CAS 7732-1	8-5)		
Acute			
Dermal			
LD ₅₀	Rabbit	Not available	
Inhalation			
LC ₅₀	Rat	Not available	
Oral			
LD ₅₀	Rat	>89840 mg/kg	
Skin corrosion/irritation	May cause slight or mild transi	ent irritation	

Serious eye damage/eye irritation	May cause temporary irritation
Respiratory sensitization	Not expected to be a respiratory sensitizer
Skin sensitization	Not expected to be a skin sensitizer
Germ cell mutagenicity	Not expected to be mutagenic
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.
OSHA Specifically Regulated	Substances (29 CFR 1910.1001-1096)
Not regulated	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity – repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard
Chronic effects	Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

12. Ecological information

Ecotoxicity

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

Components	Species	Species Test Results		
Edetic acid (CAS 60-00-4) - Aqu	latic			
Acute				
Algae				
EC ₅₀	Green algae <i>(Pseudokirchneriella</i> subcapitata)	>100 mg/L, 72 hours		
Crustacea				
EC ₅₀	Water flea (Daphnia magna)	140 mg/L, 48 hours		
Fish				
LC ₅₀	Bluegill (Lepomis macrochirus)	41 mg/L, 96 hours		
Chronic				
Algae				
NOEC	Green algae (Pseudokirchneriella subcapitata)	>100 mg/L, 72 hours		
Crustacea				
NOEC	Water flea (Daphnia magna)	25 mg/L, 21 hours		
Persistence and degradability	Not available			
Bioaccumulative potential	paccumulative potential Not available			
Mobility in soil	High water solubility indicates a high mobility in soil.			
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.			
13. Disposal consideratio	ns			
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.			
Local disposal regulations	Dispose in accordance with all applicable r	egulations.		
Hazardous waste code	The waste code should be assigned in diso disposal company.	aste code should be assigned in discussion with the user, the producer, and the waste sal company.		
	Events containers or liners may retain com	a product residues. This restarial and its container		

is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods

IATA Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Transport in bulk according to This mixture is not intended to be transported in bulk.

Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard U.S. federal regulations Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory list. TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated CERCLA Hazardous Substance (40 CFR 302.4) Edetic acid (CAS 60-00-4) SARA 304 Emergency Release Notification Not regulated OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096) Not regulated Superfund Amendments and Reauthorization Act of 1986 (SARA) Hazard categories Immediate hazard - no Delayed hazard - no Fire hazard – no Pressure hazard - no Reactivity hazard - no SARA 302 Extremely Hazardous Substance Not regulated SARA 311/312 Hazardous Chemical Not regulated SARA 313 (TRI reporting) Not regulated Other federal regulations Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAP) Not regulated Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated Safe Drinking Water Act (SDWA) Not regulated U.S. state regulations California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100) Not regulated Massachusetts Right-to-Know Act Edetic acid (CAS 60-00-4) New Jersey Worker and Community Right-to-Know Act Edetic acid (CAS 60-00-4) Pennsylvania Worker and Community Right-to-Know Act Edetic acid (CAS 60-00-4) Rhode Island Right-to-Know Act Edetic acid (CAS 60-00-4) **California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region Inventory name

On inventory

		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Ricc	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits

WEL: workplace exposure limitDisclaimerThe 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 changed, or 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 dateApril 2015Last revisionApril 2015		PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds WEL weighted average timet
may not be changed, or 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 dateApril 2015	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.
	Issue date	may not be changed, or 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.
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SAFETY DATA SHEET

1. Identification

Product identifier	Cyanuric Acid Reagent	
Product code	R-0013	
Recommended use	Use as directed by manufacture	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/D	istributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	None required
Signal word	None required
Hazard statement	None required
Precautionary statement	
Prevention	None required
Response	None required
Storage	None required
Disposal	None required
Hazard(s) not otherwise classifie	ed None
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	90–99
Melamine	2,4,6-Triamino-1,3,5-triazine; Cyanurotriamide	108-78-1	0.1–5
Other components below reportable levels			0.1–5
4. First-aid measures			

4. First-aid measures

Inhalation	Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.
Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek

medical advice. Eve 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. Treat symptomatically. Never give anything by mouth to a person who is unconscious or is Ingestion having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern. seek medical advice. Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, Most important symptoms/effects, acute edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient and delayed irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Provide general supportive measures and treat symptomatically. Indication of immediate medical attention and special treatment needed General information Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves. 5. Firefighting measures Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide. Unsuitable extinguishing Do not use water jet as an extinguisher, as this will spread the fire. media Specific hazards arising During fire, gases hazardous to health may be formed. from the chemical **Special protective** Self-contained breathing apparatus and full protective clothing must be worn in case of fire. equipment and precautions for firefighters Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind Firefighting to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get equipment/instructions water inside container. Move containers from fire area if it can be done without risk. Prevent fireextinguishing water from contaminating surface water or the ground water system. Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. General fire hazards No unusual fire or explosion hazards noted Hazardous combustion Carbon oxides. Sulfur oxides. Other irritating fumes and smoke. products

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
	Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.
7. Handling and storage	
Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective

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.

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. Workplace Environmenta	Exposure Level (WEEL) Guides
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Components	Туре	Value	Form
Melamine (CAS 108-78-1)	TWA	5 mg/m ³ 10 mg/m ³	Respirable particles Inhalable particles
Biological limit values	No biological exposure limits noted for t	he ingredient(s)	
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.		
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.		
Skin protection			
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.		
Other	Wear appropriate chemical-resistant 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 fumes at levels exceeding the exposure limits Advice should be sought from respiratory protection suppliers.		
Thermal hazards	When necessary, wear appropriate ther	mal protective clothing.	
General hygiene considerations	Always observe good personal hygiene and before eating, drinking and/or smok equipment to remove contamination. Av	king. Routinely wash work	clothing and protective

9. Physical and chemical properties

· · · · · · · · · ·	
Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	5.8
Melting point/freezing point	Not available
Initial boiling point and boiling range	212°F (100°C)
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable

Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	99%
Specific gravity	1.00

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

information on likely routes of	exposure		
Inhalation	May cause irritation to the resp	piratory system	
Skin contact	May cause slight or mild transient irritation		
Eye contact	May cause temporary irritation	1	
Ingestion	May cause discomfort		
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.		
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.		
Components	Species	Test Results	
Melamine (CAS 108-78-1)			
Acute			
Dermal			
LD ₅₀	Rabbit	>1000 mg/kg	
Inhalation			
LC ₅₀	Rat	>5.19 mg/L, 4 hours	
Oral			
LD ₅₀	Rat	3161 mg/kg	
Deionized water (CAS 7732-18	3-5)		
Acute			
Dermal			
LD ₅₀	Rabbit	Not available	

Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	May cause slight or mild transient irritation	
Serious eye damage/eye irritation	May cause temporary irritation	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	
Carcinogenicity	This product is not considered to be a carcinog	gen by IARC, NTP, OSHA, or U.S. ACGIH.
IARC Monographs. Overall E	valuation of Carcinogenicity.	
Melamine (CAS 108-78-1)) Group 3–Not classifiable as to carcinogenicity	to humans
OSHA Specifically Regulated	d Substances (29 CFR 1910.1001-1096)	
Not regulated		
Reproductive toxicity	This product is not expected to cause reproduce	ctive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity	y – single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity	y – repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard	
Chronic effects	Frequent or prolonged contact may dry the ski	n, leading to discomfort and dermatitis.
12. Ecological information		
Ecotoxicity		lly hazardous; however, this does not exclude the e a harmful or damaging effect on the environment.
Persistence and degradability	Not available	
Bioaccumulative potential	Not available	
Mobility in soil	High water solubility indicates a high mobility i	n soil.
Other adverse effects	No other adverse environmental effects (e.g., potential, endocrine disruption, global warming	ozone depletion, photochemical ozone creation potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods

ΙΑΤΑ

Not regulated as dangerous goods

IMDG Not regulated as dangerous goods

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

15. Regulatory informati	ion	
U.S. federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Communication Standard, 29 CFR 1910.1200.	A Hazard
	All components are on the U.S. EPA TSCA Inventory list.	
TSCA Section 12(b) Expo	rt Notification (40 CFR 707, Subpt. D)	
Not regulated		
CERCLA Hazardous Subs	stance (40 CFR 302.4)	
Not regulated	Lana Natification	
SARA 304 Emergency Re	lease Notification	
Not regulated	ated Substances (29 CFR 1910.1001-1096)	
Not regulated		
· ·	Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate hazard – no Delayed hazard – no Fire hazard – no Pressure hazard – no Reactivity hazard – no	
SARA 302 Extremely Haz	ardous Substance	
Not regulated		
SARA 311/312 Hazardous	s Chemical	
Not regulated		
SARA 313 (TRI reporting)		
Not regulated Other federal regulations		
•	ion 112 Hazardous Air Pollutants (HAP)	
Not regulated		
•	ion 112(r) Accidental Release Prevention (40 CFR 68.130)	
Not regulated Safe Drinking Water Act (SDWA)	
Not regulated		
U.S. state regulations		
	stances. CA Department of Justice (California Health and Safety Code Section 1	1100)
Not regulated Massachusetts Right-to-F Melamine (CAS 108-7 New Jersey Worker and C Not regulated		
Pennsylvania Worker and Melamine (CAS 108-7 Rhode Island Right-to-Kn		
Not regulated		
	ing Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is no currently listed as carcinogens or reproductive toxins.	t known to
International inventories		
Country(ies) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no

Country(ies) or region	Inventory name	On inventory
		(yes/no)*
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Ricc	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit

	TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds WEL: workplace exposure limit
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 changed, or 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	April 2015
Last revision	April 2015



SAFETY DATA SHEET

1. Identification		
Product identifier	DPD Powder	
Product code	R-0870	
Recommended use	Use as directed by manufacture	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/I	Distributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle Sparks, MD 21152 United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	
Supplier	Refer to Manufacturer	

2. Hazard(s) identification Physical hazards

 Physical hazards
 This mixture does not meet the classification criteria according to OSHA HazCom 2012.

 Health hazards
 Acute toxicity, inhalation
 Category 4

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

 Label elements
 Image: Comparison of the SDS of th



Signal word	Warning
Hazard statement	Harmful if inhaled
Precautionary statement	
Prevention	Avoid breathing dust. Use only outdoors or in a well-ventilated area.
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician or poison control center if you feel unwell.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	d Product dust may be irritating to eyes, skin, and respiratory system. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Supplemental information	None

3. Composition/information on ingredients Mixtures

Chemical name	Common name and synonyms	CAS number	%
Potassium phosphate, monobasic	Potassium dihydrogen phosphate; MKP	7778-77-0	60–65
Disodium phosphate	Disodium hydrogenorthophosphate; Sodium phosphate, dibasic	7558-79-4	30–35
Disodium dihydrate EDTA	Disodium ethylenediamine tetraacetate; Ethylenediaminetetraacetic acid sodium salt	6381-92-6	0.1–5
N,N-diethylbenzene-1,4- diammonium sulfate	N,N-diethyl-p-phenylenediamine sulfate	6283-63-2	0.1–5
Trade secret			0.1–5
Trade secret			0.1–5
Other components below reportable levels		0.1–5	

4. First-aid measures	
Inhalation	Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.
Skin contact	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
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.
Ingestion	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of dust can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Indication of 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.
5. Fire-fighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if you can do it without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.

Use standard firefighting procedures and consider the hazards of other involved materials.

No unusual fire or explosion hazards noted

Phosphorous oxides. Sodium oxides. Other irritating fumes and smoke.

Special protective

Specific methods

General fire hazards

Hazardous combustion

for firefighters

Fire-fighting

products

equipment and precautions

equipment/instructions

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. 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.			
Methods and materials for containment and cleaning up	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).			
	Sweep up or vacuum up spillage and collect in suitable container for later disposal.			
	Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.			
Environmental precautions	Avoid discharge into drains, water courses, or onto the ground.			
7. Handling and storage				

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

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

• •	•
Occupational exposure limits	No exposure limits noted for the ingredient(s)
Biological limit values	No biological exposure limits noted for the ingredient(s)
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.
Individual protection measures,	such as personal protective equipment
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.
Skin protection	
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.
Other	Wear appropriate chemical-resistant 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 fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.
Thermal hazards	When necessary, wear appropriate thermal protective clothing.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination. Avoid breathing dust.

9. Physical and chemical properties

Appearance	
Physical state	Solid
Form	Powder
Color	Off-white
Odor	Odorless
Odor threshold	Not available
рН	Not applicable
Melting point/freezing point	Not available
Initial boiling point and boiling range	Not applicable

Flash point	Not applicable (does not burn)
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable
Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	1.60 g/cm ³
Solubility(ies)	
Solubility (water)	>95%
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not applicable
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	Not applicable
Specific gravity	1.60 g/cm ³

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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. Strong acids. Strong bases.
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system
Skin contact	May cause slight or mild irritation
Eye contact	May cause irritation
Ingestion	May cause irritation of the gastrointestinal tract
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of dust can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Acute toxicity	Harmful if inhaled
	The product data below contains the calculated ATE values for this mixture as well as individual component data.

Components	Species	Test Results
Disodium dihydrate EDTA (CA	AS 6381-92-6)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	2000 mg/kg
Disodium phosphate (CAS 75	58-79-4)	
Acute		
Dermal		
LD ₅₀	Rat	>2000 mg/kg (no deaths observed)
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	>2000 mg/kg (no deaths observed)
N,N-diethylbenzene-1,4-diami	monium sulfate (CAS 6283-63-2)	
Acute		
Dermal		
LD ₅₀	Rabbit	Not available
Inhalation		
LC ₅₀	Rat	Not available
Oral		
LD ₅₀	Rat	450 mg/kg
Potassium phosphate, monob		
Acute		
Dermal		
LD ₅₀	Rat	>2000 mg/kg
Inhalation		
LC ₅₀	Rat	>0.83 mg/L, 4 hours
Oral		
LD ₅₀	Rat	>2000 mg/kg
Frade secret	Nat	~2000 mg/kg
Acute		
Dermal		
	Dabbit	Not available
LD ₅₀	Rabbit	
Inhalation	D-t	
	Rat	Not available
Oral		
LD ₅₀	Rat	>2000 mg/kg
kin corrosion/irritation	May cause slight or mild irritation	
erious eye damage/eye ritation	May cause irritation	
espiratory sensitization	Not expected to be a respiratory sensitiz	er
kin sensitization	Not expected to be a skin sensitizer	
erm cell mutagenicity	Not expected to be mutagenic	
arcinogenicity	This product is not considered to be a ca	arcinogen by IARC, NTP, OSHA, or U.S. ACGIH.
	ated Substances (29 CFR 1910.1001-1096)	
Not regulated		

Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity – repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard
Chronic effects	Not expected to cause chronic effects

12. Ecological information

Ecotoxicity

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

		. ,	5 1 1	0 0
Components			Species	Test Results
Disodium phosphate (CAS 7558-	-79-4) – Aquat	tic	
Aquatic				
Acute				
Algae	EC ₅₀		Green algae (Desmodesmus subspicatus)	>100 mg/L, 72 hours
Crustacea	EC ₅₀		Water flea <i>(Daphnia magna)</i>	>100 mg/L, 48 hours
Fish	LC ₅₀		Rainbow trout, Donaldson trout (Oncorhynchus mykiss)	>100 mg/L, 96 hours
Chronic				
Algae	NOEC		Green algae (Desmodesmus subspicatus)	>100 mg/L, 72 hours
Trade secret				
Aquatic				
Acute				
Crustacea	EC ₅₀		Water flea (Daphnia magna)	85 mg/L, 48 hours
Fish	EC ₅₀		Ide, silver or golden orfe (Leuciscus idus	s) 440–760 mg/L, 96 hours
Persistence and degrada	bility	Not available		
Bioaccumulative potentia	l			
Bioconcentration fac	tor (BCF)			
Trade secret		3.2		
Mobility in soil		High water so	lubility indicates a high mobility in soil.	
Other adverse effects			erse environmental effects (e.g., ozone de ocrine disruption, global warming potentia	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information

DOT

Not regulated as dangerous goods

ΙΑΤΑ

Not regulated as dangerous goods $\ensuremath{\mathsf{IMDG}}$

Not regulated as dangerous goods

15. Regulatory information

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

One or more components are not listed on the US EPA TSCA Inventory list.

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

Not regulated

CERCLA Hazardous Substance list (40 CFR 302.4)

Disodium phosphate (CAS 7558-79-4)

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate hazard — yes Delayed hazard — no Fire hazard — no Pressure hazard — no Reactivity hazard — no

SARA 302 Extremely hazardous substance

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

Other federal regulations

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

Not regulated

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

U.S. state regulations

California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not regulated

Massachusetts RTK - Substance List

Disodium phosphate (CAS 7558-79-4)

New Jersey Worker and Community Right-to-Know Act

Disodium phosphate (CAS 7558-79-4)

Pennsylvania Worker and Community Right-to-Know Law

Disodium phosphate (CAS 7558-79-4)

Rhode Island RTK

Disodium phosphate (CAS 7558-79-4)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region Inventory name

On inventory

		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	no
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	no
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	no
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	no

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits

WEL: workplace exposure limitDisclaimerThe 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 changed, or 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 dateMay 2015Last revisionMay 2015		PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds
	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 changed, or 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
Last revision May 2015	Issue date	May 2015
	Last revision	May 2015



SAFETY DATA SHEET

1. Identification		
Product identifier	FAS-DPD Titrating Reagent (Chlorine)
Product code	R-0871	
Recommended use	Use as directed by manufactur	er for purposes directly related to water testing.
Recommended restrictions	None known	
Manufacturer/Importer/Supplier/E	Distributor information	
Manufacturer		
Company name	Taylor Technologies, Inc.	
Address	31 Loveton Circle	
	Sparks, MD 21152	
	United States	
Telephone	(410) 472-4340	Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com	
E-mail	Not available	
Emergency phone number	(800) 837-8548	

2. Hazard(s) identification

Physical hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Health hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	None required
Signal word	None required
Hazard statement	None required
Precautionary statement	
Prevention	None required
Response	None required
Storage	None required
Disposal	None required
Hazard(s) not otherwise classified None	
Supplemental information	None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Iron ethylene diammonium sulfate	Iron (2^+) ethylenediammonium sulphate	63589-59-3	0.1–5
Other components below reportable levels			0.01–0.1

4. First-aid measures

Inhalation

Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
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.
Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Provide general supportive measures and treat symptomatically.
Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Water fog. Foam. Dry chemical powder. Carbon dioxide.
Do not use water jet as an extinguisher, as this will spread the fire.
During fire, gases hazardous to health may be formed.
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
Use standard firefighting procedures and consider the hazards of other involved materials.
No unusual fire or explosion hazards noted
Carbon oxides. Metal compounds. Sulfur oxides. Other irritating fumes and smoke.
sures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.
Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. 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.
Avoid discharge into drains, watercourses, or onto the ground.

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits			
U.S. ACGIH Threshold Limit V	alues		
Components	Туре	Value	Form
Iron ethylene diammonium sulfa (CAS 63589-59-3)	te TWA	1 mg/m ³	Not applicable
U.S. NIOSH: Pocket Guide to	Chemical Hazards		
Components	Туре	Value	Form
Iron ethylene diammonium sulfa (CAS 63589-59-3)	te TWA	1 mg/m ³	Not applicable
Biological limit values	No biological exposure limits noted	for the ingredient(s)	
Appropriate engineering controls	Good general ventilation (typically 1 should be matched to conditions. If or other engineering controls to mai exposure limits have not been estab	applicable, use process enclo ntain airborne levels below re	sures, local exhaust ventilation, commended exposure limits. If
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear safety glasses with side shield eyewash fountain and quick-drench		
Skin protection			
Hand protection	Wear appropriate chemical-resistan	t gloves. Advice should be so	ught from glove suppliers.
Other	Wear appropriate chemical-resistan	t clothing.	
Respiratory protection	In case of insufficient ventilation, we approved respirator if there is a risk Advice should be sought from respi	of exposure to fumes at level	
Thermal hazards	When necessary, wear appropriate	thermal protective clothing.	
General hygiene considerations	Always observe good personal hygi and before eating, drinking and/or s equipment to remove contamination	moking. Routinely wash work	clothing and protective

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Clear colorless or nearly colorless
Odor	Odorless
Odor threshold	Not available
рН	2.2
Melting point/freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not applicable (does not burn)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not applicable
Flammability limit, upper (%)	Not applicable

Explosive limit, lower (%)	Not applicable
Explosive limit, upper (%)	Not applicable
Vapor pressure	17 mm Hg
Vapor density	0.6
Relative density	1.00 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	98%
Specific gravity	1.00

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
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
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

information on intery routes of ex	posule	
Inhalation	May cause irritation to the respiratory system	
Skin contact	May cause slight or mild transient irritation	
Eye contact	May cause temporary irritation	
Ingestion	May cause discomfort	
Most important symptoms/effects, acute and delayed	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. 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 toxicit acute toxicity data.	y hazard. See below for individual ingredient
Components	Species	Test Results
Components Deionized water (CAS 7732-18-5)		Test Results
· · ·		Test Results
Deionized water (CAS 7732-18-5)		Test Results
Deionized water (CAS 7732-18-5) Acute		Test Results Not available
Deionized water (CAS 7732-18-5) Acute Dermal		
Deionized water (CAS 7732-18-5) Acute Dermal LD ₅₀		
Deionized water (CAS 7732-18-5) Acute Dermal LD ₅₀ Inhalation	Rabbit	Not available
Deionized water (CAS 7732-18-5) Acute Dermal LD_{50} Inhalation LC_{50}	Rabbit	Not available

Serious eye damage/eye irritation	May cause temporary irritation
Respiratory sensitization	Not expected to be a respiratory sensitizer
Skin sensitization	Not expected to be a skin sensitizer
Germ cell mutagenicity	Not expected to be mutagenic
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, U.S. ACGIH.
OSHA Specifically Regulated	Substances (29 CFR 1910.1001-1096)
Not regulated	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity, single exposure	Not classified as a specific target organ toxicity – single exposure
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity – repeated exposure
Aspiration toxicity	Not expected to be an aspiration hazard
Chronic effects	Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.
12. Ecological information	
Ecotoxicity	This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environmen
Persistence and degradability	Not available
Bioaccumulative potential	Not available

High water solubility indicates a high mobility in soil.

Dispose in accordance with all applicable regulations.

must be disposed of in a safe manner (refer to Disposal instructions).

15. Regulatory information

disposal company.

is emptied.

U.S. federal regulations

Transport in bulk according to

Annex II of MARPOL 73/78 and

Mobility in soil

Other adverse effects

Disposal instructions

Hazardous waste code

products

DOT

ΙΑΤΑ

IMDG

the IBC Code

Local disposal regulations

Waste from residues/unused

14. Transportation information

Not regulated as dangerous goods

Not regulated as dangerous goods

Not regulated as dangerous goods

Contaminated packaging

13. Disposal considerations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

The waste code should be assigned in discussion with the user, the producer, and the waste

Empty containers or liners may retain some product residues. This material and its container

Empty containers should be taken to an approved waste-handling site for recycling or disposal.

Since emptied containers may retain product residue, follow label warnings even after container

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

This mixture is not intended to be transported in bulk.

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

Not regulated

CERCLA Hazardous Substance (40 CFR 302.4) Not regulated SARA 304 Emergency Release Notification Not regulated OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096) Not regulated Superfund Amendments and Reauthorization Act of 1986 (SARA) **Hazard categories** Immediate hazard - no Delayed hazard - no Fire hazard - no Pressure hazard - no Reactivity hazard - no SARA 302 Extremely Hazardous Substance Not regulated SARA 311/312 Hazardous Chemical Not regulated SARA 313 (TRI reporting) Not regulated Other federal regulations Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAP) Not regulated Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated Safe Drinking Water Act (SDWA) Not regulated U.S. state regulations California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100) Not regulated Massachusetts Right-to-Know Act Not regulated New Jersey Worker and Community Right-to-Know Act Not regulated Pennsylvania Worker and Community Right-to-Know Act Iron ethylene diammonium sulfate (CAS 63589-59-3) **Rhode Island Right-to-Know Act** Not regulated **California Proposition 65** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region Inventory name

On inventory

	5	
		(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	no
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	no
Korea	Existing Chemicals List (ECL)	no
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAA: Clean Air Act CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act CFR: Code of Federal Regulations CSA: Canadian Standards Association DEA: Drug Enforcement Agency DOT: Department of Transportation **DSL: Domestic Substances List** EC: effective concentration ECL: Existing Chemicals List EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HAP: hazardous air pollutants HMIS: Hazardous Materials Identification System HNOC: hazards not otherwise classified HPA: Hazardous Products Act HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk ICAO: International Civil Aviation Organization IECSC: Inventory of Existing Chemical Substances Produced or Imported in China IMDG: International Maritime Dangerous Goods IUCLID: International Uniform Chemical Information Database LC: lethal concentration LD: lethal dose MARPOL: marine pollution MSHA: Mine Safety and Health Administration NDSL: Non-Domestic Substances List NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NOEC: no observable effect concentration NTP: National Toxicology Program NZIoC: New Zealand Inventory of Chemicals OECD: Organisation for Economic Co-operation and Development OEL: occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: permissible exposure limits

	PICCS: Philippine Inventory of Chemicals and Chemical Substances PPE: personal protective equipment RCRA: Resource Conservation and Recovery Act RQ: reportable quantity RTECS: Registry of Toxic Effects of Chemical Substances RTK: right to know SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet SDWA: Safe Drinking Water Act STEL: short-term exposure limit TLV: threshold limit values TSCA: Toxic Substances Control Act TWA: time-weighted average VOC: volatile organic compounds WEL: workplace exposure limit
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