SAFETY DATA SHEET

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

SECTION 1: Identification

Product identifier

Product name	Buffer Solution pH 9.0
Product number	R-1099-09; R-1099-09-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable	
Health hazards	Reproductive toxicity	Category 1B
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	

Label elements

Hazard pictograms

Signal word	Danger
Hazard statements	May damage fertility or the unborn child
Precautionary statements	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur.
Response	IF EXPOSED OR CONCERNED: Get medical advice/attention.
Storage	Store locked up. Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80–100
Boric acid	Boron hydroxide; Orthoboric acid	10043-35-3	0.1–1
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

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

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	Hazardous reactions will not occur under normal conditions.
Hazardous combustion products	Boron oxides, sodium oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

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

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage

Personal precautions, protective equipment, and emergency procedures

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

Conditions for safe storage, including any incompatibilities

Store locked up. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

Components	Type	Value
Boric acid (CAS 10043-35-3)	TWA	2 mg/m^3
Boric acid (CAS 10043-35-3)	STEL	6 mg/m^3

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

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

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless
Odor	Odorless
Odor threshold	No data available
pH	9.0
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available

Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Acid, acid anhydrides, metals, potassium, strong oxidizing agents
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

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

Most important symptoms/effects, acute and delayed

Direct skin contact may cause irritation. Symptoms may include redness and itching.

Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of dust can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Possible reproductive hazard. May cause birth defects or damage fertility, based on animal data.

Acute toxicity

This product is not classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.

Product	**Species**	**Acute Toxicity Estimate (ATE)**
Buffer Solution pH 9.0 (CAS Mixture)		
Acute		
Dermal		
LD_{50}	Rabbit	>2000 mg/kg
Inhalation		
LC_{50}	Rat	>5 mg/L
Oral		
LD_{50}	Rat	>2000 mg/kg

Components	**Species**	**Acute Toxicity Data**
Boric acid (CAS 10043-35-3)		
Acute		
Dermal		
LD_{50}	Rabbit	>2000 mg/kg
Inhalation		
LC_{50}	Rat	2.12 mg/L
Oral		
LD_{50}	Rat	2600 mg/kg

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

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity	May damage fertility or the unborn child
Specific target organ toxicity (single exposure)	No data available
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available

SECTION 12: Ecological information

Ecotoxicity	This product is not classified as environmentally hazardous.
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

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

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

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

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Chemical name	CAS number
Boric acid	10043-35-3

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

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

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

Not regulated

Other federal regulations

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

Not regulated

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

Not regulated

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

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

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

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

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

Disclaimer

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