


SECTION 1: Identification

Product identifier	
Product name	Boron 2 - Reagent A
Product number	R-8018A
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	No data available	
Health hazards	Eye damage/irritation	Category 2A
	Skin corrosion/irritation	Category 2
Environmental hazards	No data available	
Label elements		
Hazard pictograms		
Signal word	Warning	
Hazard statements	Causes skin irritation. Causes serious eye irritation.	
Precautionary statements		
Prevention	Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur.	
Response	IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. Take off all contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: Get medical advice/attention.	
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.	
Disposal	No data available	
Hazards not otherwise classified	No data available	

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	%
Water	Dihydrogen oxide	7732-18-5	50–60
Ammonium acetate	Acetic acid ammonium salt	631-61-8	30–40
EDTA tetrasodium salt	Ethylenediaminetetraacetic acid tetrasodium salt hydrate	10378-23-1	0.1–5
Sulfuric acid	Hydrogen sulfate	7664-93-9	0.1–5
Other components below reportable levels			0.1–5

SECTION 4: First-aid measures

If inhaled

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

In case of skin contact

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

In case of eye contact

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

If swallowed

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.

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	Carbon oxides, nitrogen oxides, sodium oxides, and sulfur oxides

Advice for firefighters

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

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

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water to remove residual contamination.

Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product.

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

Reference to other sections

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

SECTION 7: Handling and storage

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

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

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

ACGIH Threshold Limit Values

Components	Type	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³	Thoracic fraction

NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³	Not applicable

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

Components	Type	Value	Form
Sulfuric acid (CAS 7664-93-9)	PEL	1 mg/m ³	Not applicable

Biological limit values No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

- Eye/face protection** Wear appropriate chemical safety goggles if contact is likely to occur.
- Skin protection** Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
- Body protection** Wear appropriate protective clothing.
- Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless
Odor	Odorless
Odor threshold	No data available
pH	5.55
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	212°F (100°C)
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapor pressure	17 mm Hg
Relative vapor density	No data available
Solubility	Soluble in all proportions

Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	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	Metal compounds, nitromethanes, strong acids, strong oxidizing agents, and sugars

SECTION 11: Toxicological information

Information on toxicological effects

Inhalation	May cause irritation to the respiratory system
Skin contact	May cause slight or mild transient irritation
Eye contact	May cause serious irritation
Ingestion	May cause irritation, nausea, vomiting, and diarrhea

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.

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
EDTA tetrasodium salt (CAS 10378-23-1)		
Acute		
<i>Oral</i>		
LD ₅₀	Rat	630–1260 mg/kg
Sulfuric acid (CAS 7664-93-9)		
Acute		
<i>Inhalation</i>		
LC ₅₀	Rat	0.375 mg/L, 4 hours (mist)
<i>Oral</i>		
LD ₅₀	Rat	2140 mg/kg
Respiratory or skin sensitization	No data available	
Germ cell mutagenicity	No data available	
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 to sulfuric acid solutions.	
Reproductive toxicity	No data available	
Specific target organ toxicity (single exposure)	No data available	

Specific target organ toxicity (repeated exposure) No data available

Aspiration hazard No data available

SECTION 12: Ecological information

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.

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 a dangerous good

IATA Not regulated as a dangerous good

IMDG Not regulated as a dangerous good

SECTION 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.

CERCLA Hazardous Substance (40 CFR 302.4)

Sulfuric acid (CAS 7664-93-9)

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

Sulfuric acid (CAS 7664-93-9)

DEA Exempt Chemical Mixtures Code Number

Sulfuric acid (CAS 7664-93-9)

Drug Enforcement Administration (DEA) List 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulfuric acid (CAS 7664-93-9)

Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))

Sulfuric acid (CAS 7664-93-9)

SARA 302 Extremely Hazardous Substance

Sulfuric acid (CAS 7664-93-9)

SARA 304 Emergency Release Notification

Sulfuric acid (CAS 7664-93-9)

SARA 313 (TRI Reporting)

Sulfuric acid (CAS 7664-93-9)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Immediate hazard Yes

Delayed hazard No

Fire hazard No

Pressure hazard No

Reactivity hazard Yes

U.S. state regulations

California Proposition 65 - CRT: Listed date/carcinogenic substance

Sulfuric acid (CAS 7664-93-9) This product is not an inorganic acid mist containing sulfuric acid; therefore, the Proposition 65 statement does not apply.

Massachusetts Right-to-Know Act

Ammonium acetate (CAS 631-61-8)

EDTA tetrasodium salt (CAS 10378-23-1)

Sulfuric acid (CAS 7664-93-9)

New Jersey Worker and Community Right-to-Know Act

Ammonium acetate (CAS 631-61-8)

EDTA tetrasodium salt (CAS 10378-23-1)

Sulfuric acid (CAS 7664-93-9)

Pennsylvania Worker and Community Right-to-Know Act

Ammonium acetate (CAS 631-61-8)

EDTA tetrasodium salt (CAS 10378-23-1)

Sulfuric acid (CAS 7664-93-9)

Rhode Island Right-to-Know Act

Sulfuric acid (CAS 7664-93-9)

SECTION 16: Other information

NFPA Rating

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

Disclaimer

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