Safety Data Sheet · OSHA HCS 2024

Boric Acid Powder 99% ACS Grade

ACS Grade · 99%

Standard	Revised	Emergency
OSHA HCS 2024 · GHS Rev. 7	2026-11-12	Chemtel 1-800-255-3924 (24/7)

1 Identification

Product Identifier	Boric Acid Powder 99% ACS Grade
Grade	ACS Grade
Concentration	99%
CAS Number	10043-35-3
Chemical Formula	H3B03
Molecular Weight	61.83 g/mol
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Synonyms	Orthoboric acid; boracic acid; hydrogen borate
Recommended Use	Laboratory and analytical reagent (ACS grade): buffer preparation, titrations and analysis.
Restrictions on Use	May damage fertility or the unborn child: minimize exposure, especially for workers who are or may become pregnant. Not registered under FIFRA — not for use as an insecticide or other pesticide. Not for food, cosmetic or medical use.

2 Hazard Identification



Health hazard

Classification	Reproductive toxicity, Category 1
Signal Word	**Danger**
Hazard Statements	H360FD May damage fertility. May damage the unborn child.

Precautionary Statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves, protective clothing, and eye/face protection.

P308+P313 IF exposed or concerned: Get medical advice or attention.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

Classification, hazard (H) and precautionary (P) statements and pictograms per OSHA HCS 2024 (29 CFR 1910.1200, Appendices A–C), aligned with GHS Rev. 7.

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Boric acid	10043-35-3	H3BO3	≥ 99.8% (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes
Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.

Skin
Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.

Inhalation
Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Ingestion
Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

Most Important Symptoms and Effects
No specific symptoms are expected from the hazards identified in Section 2.

Immediate Medical Attention and Special Treatment
Treat symptomatically. Get medical attention if symptoms develop or persist.

5 Fire-Fighting Measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical, or CO2. Use measures appropriate to local circumstances.

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical
Containers may rupture when heated.

Protective Equipment
Wear self-contained breathing apparatus and full protective clothing.

Hazardous Combustion Products
Water vapor and boron oxides on heating. Not combustible.

6 Accidental Release Measures

Personal Precautions
Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions
Prevent leakage or spillage from entering drains, sewers, or waterways.

Containment & Cleanup
Sweep or vacuum up, avoiding dust. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling
Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.

Safe Storage
Store in a cool, dry, well-ventilated area. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

Specific Storage Precautions	Keep tightly closed in a dry, ventilated area away from bases and oxidizers. Store locked up and away from food and feed.

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

Limit	Value
ACGIH TLV	2 mg/m³ TWA; 6 mg/m³ STEL (inhalable fraction; borate compounds, inorganic)
NIOSH REL	5 mg/m³ TWA
Other Limits	OSHA: no substance-specific PEL; particulates not otherwise regulated 15 mg/m³ total dust, 5 mg/m³ respirable

Engineering Controls	Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.
Eye/Face Protection	Wear chemical safety goggles or face shield.
Skin Protection	Wear chemical-resistant gloves and protective clothing.
Respiratory Protection	Use NIOSH-approved respirator if exposure limits are exceeded or irritation occurs.

Exposure limits sourced from NIOSH Pocket Guide, OSHA 29 CFR 1910.1000 and ACGIH TLVs.

9 Physical & Chemical Properties

Appearance	Fine white crystalline powder, soft texture
Odor	Odorless
Odor Threshold	No data available
pH	3.8–4.8 (33 g/L aqueous solution)
Melting Point / Freezing Point	169–171 °C (336–340 °F), with decomposition
Boiling Point	Not applicable — decomposes before boiling
Flash Point	Not applicable
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	Negligible at 20 °C
Vapor Density	No data available
Relative Density	1.44–1.49 at 20 °C (water = 1)
Solubility	Soluble in water (about 49 g/L at 20 °C, much more in hot water); soluble in methanol and glycerol
Partition Coefficient (n-octanol/water)	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	Loses water from about 100 °C (forming metaboric acid), then boron oxide at higher temperature
Viscosity	No data available

Particle Characteristics	No data available
Form	Solid
Density	1.435 g/cm^3 at 68 °F (USCG, 1999)

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Reactivity	Not reactive under normal conditions of use and storage.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Moisture (causes caking) and heat above 100 °C (loses water).
Incompatible Materials	Strong bases; strong oxidizing agents; potassium and other alkali metals; acetic anhydride.
Hazardous Decomposition Products	Water vapor and boron oxides on heating. Not combustible.

11 Toxicological Information

See below for route-specific acute toxicity data.

Likely Routes of Exposure	Inhalation, skin contact, eye contact, ingestion.
Symptoms	No specific symptoms are expected from the hazards identified in Section 2.
Delayed and Chronic Effects	Reproductive toxicity: May damage fertility. May damage the unborn child.

Route	Value
LD50 Oral	2,660 mg/kg (rat)
LD50 Dermal (rabbit)	> 2,000 mg/kg
LC50 Inhalation	> 2.12 mg/L (dust, 4 h)

Carcinogen Classification

Agency	Status
IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Fish LC50: 79 mg/L (96 h, Oncorhynchus mykiss — 79 ppm hard / 100 ppm soft water; cf. Ictalurus punctatus 22 ppm hard)
Persistence & Degradability	Persistent as boron — Does not biodegrade (inorganic boron)
Bioaccumulative Potential	BCF No bioaccumulation reported for boron compounds
Mobility in Soil	High soil mobility; leaches readily (pH-dependent adsorption, max pH 8.5–9)

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

EPA RCRA Waste Codes	Not a P- or U-listed waste and not expected to be a characteristic hazardous waste; the generator makes the final determination. Check state rules for borates.

14 Transport Information

Not regulated for transport under US DOT 49 CFR Subchapter C, IMDG, or IATA DGR.

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed
CERCLA Reportable Quantity (RQ)	Not a CERCLA hazardous substance (no RQ). Not an EPCRA Section 313 chemical. EU REACH SVHC (toxic for reproduction).

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-11-02; US EPA TSCA Active Inventory 2026-11-02; EPCRA SARA 313 (TRI) 2026-11-02.

16 Other Information

Revision Date	2026-11-12
Format	16-section format per OSHA HCS 2024 (29 CFR 1910.1200, Appendix D), aligned with GHS Rev. 7.

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