Technical Data Sheet

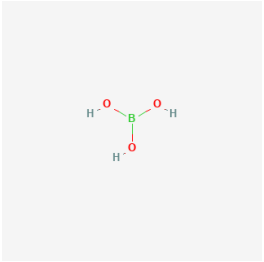
Boric Acid Powder 99% ACS Grade

ACS Grade · 99%

Alliance Code	Revised	Revision
boric-acid-powder-99-acs-grade	2026-10-08	1.3

CAS number

10043-35-3



Structure · PubChem

Grade	Signal word
ACS Grade · 99%	**Danger**

Hazards

Health hazard H360FD

IDENTITY & COMPOSITION

PRODUCT NAME
Boric Acid Powder 99% ACS Grade

ALLIANCE CODE
boric-acid-powder-99-acs-grade

GRADE
ACS Grade

CONCENTRATION
99%

CAS NUMBER
10043-35-3 PubChem

FORMULA
H3BO3 Adjudicated

MOLECULAR WEIGHT
61.83 g/mol Adjudicated

PRODUCT TYPE
Solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (H3BO3)	min. 99.8 %	—	titr.	Interpreted
Insoluble matter in CH3OH	max. 0.005 %	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Lead (Pb)	max. 0.0005 %	—	—	Interpreted
Potassium (K)	max. 0.005 %	—	—	Interpreted
Nonvolatile with methanol	0.05%	—	—	Interpreted
Residue on ignition (as SO4) (CH3OH + HCl)	max. 0.05 %	—	—	Interpreted
Insoluble in methanol	0.005%	—	—	Interpreted
Insoluble matter in H2O	max. 0.005 %	—	—	Interpreted
Arsenic (As)	<= 1 ppm	—	—	Interpreted
Calcium (Ca)	0.005%	—	—	Interpreted
Chloride (Cl)	0.001%	—	—	Interpreted
Heavy metals (as Pb)	0.001%	—	—	Interpreted
Iron (Fe)	0.001%	—	—	Interpreted
Phosphate (PO4)	0.001%	—	—	Interpreted
Sulfate (SO4)	0.01%	—	—	Interpreted
Sodium (Na)	max. 0.005 %	—	ICP-OES	Interpreted

Values are reproduced from the current product reference. Source labels do not by themselves establish a supplier guarantee or a test result for your lot. Confirm applicable acceptance limits and request lot-specific documentation.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Fine white crystalline powder, soft texture	Adjudicated
Form	Solid	Published reference
Odor	Odorless	Adjudicated
pH	3.8–4.8 (33 g/L aqueous solution)	Adjudicated
Specific Gravity	1.44–1.49 at 20 °C (water = 1)	Adjudicated
Density	1.435 at 68 °F (USCG, 1999) - Denser than water; will sink	Published reference
Boiling Point	Not applicable — decomposes before boiling	Adjudicated
Melting Point	169–171 °C (336–340 °F), with decomposition	Adjudicated
Flash Point	Not applicable	Adjudicated
Vapor Pressure	Negligible at 20 °C	Adjudicated
Solubility (water)	Soluble in water (about 49 g/L at 20 °C, much more in hot water); soluble in methanol and glycerol	Adjudicated

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated Adjudicated

HAZARD CLASS

Not regulated Adjudicated

PACKING GROUP

Not regulated Adjudicated

PROPER SHIPPING NAME

Not regulated Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

H360FD ECHA C&L Inventory

P-CODES (PRECAUTIONARY STATEMENTS)

P201, P202, P280, P308+P313, P405, P501

ECHA C&L Inventory

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— no canonical

ACGIH TLV

2 mg/m^3 TWA; 6 mg/m^3 STEL (inhalable fraction; borate compounds, inorganic)

Adjudicated

NIOSH REL

5 mg/m^3 TWA NIOSH Pocket Guide

NIOSH IDLH

— no canonical

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

HEALTH & FIRE HAZARD

ACUTE TOXICOLOGY

LD$_{50}$ ORAL (RAT)

2,660 mg/kg (rat) Adjudicated

LD$_{50}$ DERMAL (RABBIT)

> 2,000 mg/kg Adjudicated

LC$_{50}$ INHALATION (RAT, 4 H)

> 2.12 mg/L (dust, 4 h)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
B6768	ACS reagent	≥99.5%	Unverified candidate	Same ACS reagent grade.

Cross-references are informational. Confirm against the manufacturer's current specification before substitution. Competitor trademarks are property of their respective owners.

APPLICATIONS

Laboratory analytical reagent supplied "for analysis" to ACS and ISO specification itwreagents.com

Laboratory, research or manufacturing use for material meeting ACS specifications media.vwr.com

Research use only; the supplier excludes human or animal consumption, cosmetic, pharmaceutical and diagnostic use

bioshopcanada.com

Used in the production of agricultural products, flame-retardants, coatings, and metallurgy rosemill.com

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

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

Adjudicated

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES

Strong bases; strong oxidizing agents; potassium and other alkali metals; acetic anhydride.

Adjudicated

SHELF LIFE

Consult Technical Services for product-specific shelf life

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

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Not regulated for transport.
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Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS

70

REVISION HISTORY

Last reviewed 2026-10-08 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-10-08	Canonical data updated: 22 fields changed via the provenance/adjudication pipeline. • formula · canonical change (coa.data_provenance / adjudication) • molecularWeight · canonical change (coa.data_provenance / adjudication) • synonyms · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · canonical change (coa.data_provenance / adjudication) • odor · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • decompositionTemperature · canonical change (coa.data_provenance / adjudication) • vaporPressure · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • oel_other · canonical change (coa.data_provenance / adjudication) • incompatible_materials · canonical change (coa.data_provenance / adjudication) • conditions_to_avoid · canonical change (coa.data_provenance / adjudication) • hazardous_decomposition_products · canonical change (coa.data_provenance / adjudication) • storage_precautions · canonical change (coa.data_provenance / adjudication) • rcra_waste_codes · canonical change (coa.data_provenance / adjudication) • cercla_rq · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication) • pH · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-09-30	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • appearance · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-06-18	Canonical data re-verified: 4 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) • ghsClassification · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance)	canonical_change
1.0	2026-05-20	Initial URL-first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.