

TECHNICAL DATA SHEET

Potassium Bicarbonate - FCC USP Grade

USP Grade

CAS NUMBER	ALLIANCE CODE	GENERATED
298-14-6	potassium-bicarbonate-fcc- usp-grade	2026-08-31
REVISION	REVIEWED	
1.1	2026-06-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Potassium Bicarbonate - FCC USP Grade	potassium-bicarbonate-fcc-usp-grade
GRADE	CONCENTRATION
USP Grade	—
CAS NUMBER	FORMULA
298-14-6 PubChem	CHKO3 PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
100.115 PubChem	pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (KHCO3, dried basis)	99.5 – 101.5 %	100.5 %	Acidimetric titration with 1 N hydrochloric acid VS using methyl red TS (1 mL = 100.1 mg KHCO3)	USP monograph
Arsenic (as As)	1.5 ppm by wt. Max.	0.05 ppm by wt.	Elemental impurities (USP <232>/<233> style ICP determination)	Supplier specific ation

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Cadmium (as Cd)	0.2 ppm by wt. Max.	0.01 ppm by wt.	Elemental impurities (USP <232>/<233> style ICP determination)	Supplier specific ation
Carbonate (FCC limit test)	Passes test (solution does not immediately turn more than a faint pink color)	Passes test	Dissolve 1 g without agitation in 20 mL water at not above 5 degrees C, add 2 mL 0.1 N hydrochloric acid and 2 drops phenolphthalein	FCC
Heavy Metals (as Pb)	max. 10 ppm	1 ppm	—	Supplier specific ation
Identificati on	A 1:10 aqueous solution gives positive tests for Potassium and for Bicarbonate	Passes test	Chemical identity tests for Potassium and for Bicarbonate on a 1:10 aqueous solution	FCC
Lead (Pb)	Not more than 2 mg/kg	0.05 mg/kg	APDC Extraction Method under Lead Limit Test, FCC Appendix IIIB	FCC
Loss on Drying	Not more than 0.25 %	0.06 %	Dried over silica gel for 4 hours (FCC Appendix IIC)	FCC
Loss on Drying – USP acceptanc e criterion	Not more than 0.3 %	0.06 %	Dry over silica gel for 4 hours	USP monogr aph
Mercury (as Hg)	0.3 ppm by wt. Max.	0.01 ppm by wt.	Elemental impurities (USP <232>/<233> style ICP determination)	Supplier specific ation

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Normal Carbonate	max. 2.5%	0.3 %	—	Supplier specification
Residual Solvents	Meets Requirements	Passes test	USP <467> (not required where no solvents are used in manufacture)	Supplier specification
Chloride (as Cl)	Not more than 0.005 %	0.001 %	USP <221> chloride limit test / argentometric titration	Interpreted
Sulfate (as SO ₄)	Not more than 0.01 %	0.002 %	USP <221> sulfate limit test, turbidimetric against standard	Interpreted
Iron (Fe)	Not more than 5 mg/kg	0.4 mg/kg	ICP-OES (FCC iron limit test)	Supplier specification
Screen Analysis (sieve)	100 % through 20 mesh (850 μ m); not more than 10 % through 200 mesh (75 μ m)	Passes test	ASTM E11 sieve stack / Ro-Tap, 10 min	Interpreted
calcium	0.002 % max	0.0002 %	—	Supplier specification
insoluble	0.01 % max	0.002 %	—	Supplier specification
magnesium	0.001 % max	0.0001 %	—	Supplier specification

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Colorless, transparent, monoclinic prisms or white, granular powder; stable in air	FCC
Form	Solid	Published reference
pH	8.0 – 8.6	Interpreted
Density	~64 lb/cu.ft (published as informational only, not a specification item)	Supplier specification
Boiling Point	87	Published reference
Melting Point	Decomposes before melting	Published reference
Flash Point	N/A	Published reference
Solubility (water)	Soluble	Published reference

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Good	60	Acceptable	Cole-Parmer Chemical Compatibility
EPDM Elastomer	Excellent	100	Standard for brine gaskets.	Parker O-ring Chemical Compatibility
Viton (FKM) Elastomer	Excellent	100	Preferred elastomer	Cole-Parmer Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Borosilicate Glass Glass Ceramic	Excellent	100	Universally inert to salt solutions.	Cole-Parmer Chemical Compatibility
Concrete (sealed) Glass Ceramic	Good	—	Acceptable with epoxy coating	Cole-Parmer Chemical Compatibility
304 stainless steel Metal	Fair	25	Pitting in chloride-rich service	Cole-Parmer Chemical Compatibility
316L Stainless Steel Metal	Good	60	Watch for chloride pitting above 60 °C in chloride salts.	NACE Chloride Pitting Guidelines
Aluminium Metal	Poor	—	Pitting; not recommended for brine	Cole-Parmer Chemical Compatibility
Carbon steel Metal	Poor	—	Rapid rust in brine	Cole-Parmer Chemical Compatibility
FRP Thermoplastic	Excellent	60	Common bulk-storage	Cole-Parmer Chemical Compatibility
HDPE Thermoplastic	Excellent	60	Universal salt brine compatibility.	Cole-Parmer Chemical Compatibility
PP Thermoplastic	Excellent	80	Acceptable for hot brine	Cole-Parmer Chemical Compatibility
PVC Thermoplastic	Excellent	60	Standard for brine piping.	Cole-Parmer Chemical Compatibility

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated [Adjudicated](#)

PACKING GROUP

Not regulated [Adjudicated](#)

HAZARD CLASS

Not regulated [Adjudicated](#)

PROPER SHIPPING NAME

Not regulated [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

— [no canonical](#)

P-CODES (PRECAUTIONARY STATEMENTS)

— [no canonical](#)

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— [no canonical](#)

ACGIH TLV

— [no canonical](#)

NIOSH REL

— [no canonical](#)

NIOSH IDLH

— [no canonical](#)

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

APPLICATIONS

Food-grade functional use as a pH control agent and leavening agent (FCC Food Grade monograph function statement)

potassiumb carbonate.org

pH control and leavening agent function stated for FCC Food Grade material anmol.org

Use as a pharmaceutical excipient (USP anhydrous material registered with the US FDA as an excipient)

armandproducts.com

Supplied as a bulk food chemical and bulk pharmaceutical chemical for manufacturing, processing or repacking

mgscientific.com

pH control anmol.org

leavening agent anmol.org

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

Cool, dry area in sealed containers. Many salts are hygroscopic — protect from atmospheric moisture, which can cause caking, hydrate formation, or reduced flow.

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

INCOMPATIBILITIES

Specific incompatibilities depend on the salt — consult the SDS. Many salts react with strong acids to release gases.

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

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.

HANDLING PRECAUTIONS

Standard chemical PPE — dust mask and goggles for handling of fine grades. Avoid generating airborne dust.

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

SHELF LIFE

Consult Technical Services for product-specific shelf life

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

Not regulated for transport.

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
70

REVISION HISTORY

Last reviewed 2026-06-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-06-17	Canonical data re-verified: 3 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) - hsCode · canonical adjudication / reground (coa.data_provenance)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
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.