

TECHNICAL DATA SHEET

Sodium Bisulfite 40% ACS Grade

ACS Grade · 40%

CAS NUMBER	ALLIANCE CODE	GENERATED
7631-90-5	sodium-bisulfite-40-ac-s-grade	2026-08-31
REVISION	REVIEWED	
1.3	2026-07-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Sodium Bisulfite 40% ACS Grade	sodium-bisulfite-40-ac-s-grade
GRADE	CONCENTRATION
ACS Grade	40%
CAS NUMBER	FORMULA
7631-90-5 PubChem	HNaO3S PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
104.06 PubChem	solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (NaHSO3)	39.5 – 40.5 % by wt	40.0 %	—	Commercial practice
Chloride (Cl)	≤ 0.008 %	0.0005 %	—	Derived by dilution
Heavy metals (as Pb)	≤ 0.0004 %	0.0001 %	—	Derived by dilution

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Insoluble matter	≤ 0.002 %	0.0004 %	—	Derived by dilution
Iron (Fe)	≤ 0.0008 %	0.00012 %	—	Derived by dilution
Sulfur dioxide (SO ₂), available	24.3 – 24.9 % by wt	24.6 %	Iodometric titration (I ₂ / Na ₂ S ₂ O ₃ back-titration)	Interpreted

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.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE ACS Grade	40%	—	current
Technical	40%	—	sodium-bisulfite-40
ACS	25%	—	sodium-bisulfite-25-acs-grade
Technical	25%	—	sodium-bisulfite-25
Technical	15%	—	sodium-bisulfite-15-technical-grade
ACS	10%	—	sodium-bisulfite-10-acs-grade
Technical	10%	—	sodium-bisulfite-10-technical-grade
ACS	—	—	sodium-bisulfite-15-acs-grade

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless to light-yellow liquid	Published reference
Form	Liquid	Published reference
Odor	Slight sulfur dioxide odor	Published reference
pH	3.8 – 5.0	Interpreted
Specific Gravity (20 °C)	1.325 – 1.345	Interpreted
Density	1.32–1.35 g/cm ³ (20°C)	Published reference
Boiling Point	~100–103 °C	Published reference
Melting Point	< 0 °C	Published reference
Flash Point	Not applicable (non-combustible aqueous solution)	Published reference
Solubility (water)	Miscible with water	Published reference

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	CONDITIONS	SOURCE
stainless steel (alloy grade not specified)	Compatible	Sodium bisulfite solution 38.0–42.0 wt. %, as shipped in tank truck or railcar; no temperature stated	ineos.com

MATERIAL	RATING	CONDITIONS	SOURCE
plastic (polymer not specified in source)	Compatible	Sodium bisulfite solution 38.0–42.0 wt. %, as shipped in 55 gallon plastic drums; no temperature stated	ineos.com

Compatibility is drawn from published manufacturer and supplier documentation for this product; each rating is sourced. Confirm against your specific duty cycle before equipment selection.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

UN2693 49 CFR 172.101

HAZARD CLASS

8 Adjudicated

PACKING GROUP

III Adjudicated

PROPER SHIPPING NAME

Bisulfites, aqueous solutions, n.o.s. (Sodium bisulfite)

Adjudicated

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

EUH031, H302, H318 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P264, P270, P301+P312, P330, P501

Adjudicated

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

Dechlorination in municipal wastewater, pulp & paper, power, and textile water treatment plants

ineos.com

Oxygen scavenger and boiler water treatment [ineos.com](https://www.ineos.com)

Preservative in the photo developer process [ineos.com](https://www.ineos.com)

Flue gas desulfurization [ineos.com](https://www.ineos.com)

Food additive (source is a sodium bisulfite solution stated to meet FCC, ACS and/or USP specifications; grade-scoped to ACS handles)

[ineos.com](https://www.ineos.com)

Laboratory, research, or manufacturing use (ACS reagent grade material)

digitalassets.avantorsciences.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

Cool, dry, well-ventilated area in original sealed containers. Refer to product SDS for material-specific guidance.

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

INCOMPATIBILITIES

Consult the SDS for material-specific incompatibilities.

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

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.

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)

UN2693, Bisulfites, aqueous solutions, n.o.s. (Sodium bisulfite), 8, PG III

Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
65

PLACARD
Corrosive

PACKING GROUP
PG III

REVISION HISTORY

Last reviewed 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-08-05	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. - hazardClass · canonical change (coa.data_provenance / adjudication) - packingGroup · canonical change (coa.data_provenance / adjudication) - unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-07-22	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-07-17	Canonical data re-verified: 6 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) - ghsClassification · canonical adjudication / reground (coa.data_provenance) - hazard_h_codes · canonical adjudication / reground (coa.data_provenance) - hazard_p_codes · canonical adjudication / reground (coa.data_provenance) - hsCode · canonical adjudication / reground (coa.data_provenance) - physicalProperties · 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.