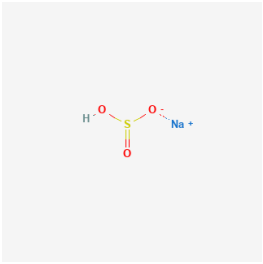
Technical Data Sheet

Sodium Bisulfite 40% ACS Grade

ACS Grade · 40%

Alliance Code	Revised	Revision
sodium-bisulfite-40-acs-grade	2026-10-08	1.7

CAS number 7631-90-5	UN number UN2693	Hazard class · packing group 8 · PG III
 Structure · PubChem	Grade ACS Grade · 40%	Signal word **Danger**

Hazards

Corrosive | Irritant / harmful | EUH031 H302 H318

Proper shipping name

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

IDENTITY & COMPOSITION

PRODUCT NAME
Sodium Bisulfite 40% ACS Grade

ALLIANCE CODE
sodium-bisulfite-40-acs-grade

GRADE
ACS Grade

CONCENTRATION
40% w/w

CAS NUMBER
7631-90-5 PubChem

FORMULA
NaHSO3 PubChem

MOLECULAR WEIGHT
104.06 PubChem

PRODUCT TYPE
Solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (NaHSO3)	39.5 - 40.5 % w/w	—	—	Interpreted
Chloride (Cl)	≤ 0.008 %	—	—	Interpreted
Heavy metals (as Pb)	≤ 0.0004 %	—	—	Interpreted
Insoluble matter	≤ 0.002 %	—	—	Interpreted
Iron (Fe)	≤ 0.0008 %	—	—	Interpreted
Sulfur dioxide (SO2), available	24.3 - 24.9 % w/w	—	Iodometric titration (I2 / Na2S2O3 back-titration)	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.

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

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
Technical	10%	—	`sodium-bisulfite-10-technical-grade`
ACS	—	—	`sodium-bisulfite-15-acs-grade`

Typical assay for each grade is the average of its recent lots. Confirm a grade meets your specification before substituting it.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear to pale yellow liquid	Adjudicated
Form	Liquid	Published reference
Odor	Pungent, sulfur dioxide odor	Adjudicated
pH	3.5–5.0	Adjudicated
Specific Gravity	1.32–1.35 at 20 °C (water = 1)	Adjudicated
Density	1.32-1.35 g/cm^3 (20°C)	Published reference
Boiling Point	About 100–104 °C (212–219 °F), with release of sulfur dioxide	Adjudicated
Melting Point	About 5 °C (41 °F), crystallization point; keep from freezing	Adjudicated
Flash Point	Not applicable	Adjudicated
Vapor Pressure	About 18–32 mmHg at 20 °C (water and sulfur dioxide)	Adjudicated
Solubility (water)	Completely miscible with water	Adjudicated
Viscosity	3.6 mPa·s at 20 °C	Adjudicated

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
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 HCS 2024

SIGNAL WORD
Danger Adjudicated

H-CODES (HAZARD STATEMENTS)
EUH031, H302, H318 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)
P264, P270, P280, P301+P312, P305+P351+P338, P310, P330, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
— no canonical

ACGIH TLV
5 mg/m^3 TWA 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)

1,310–2,610 mg/kg (as sodium bisulfite)

Adjudicated

LD_{50} DERMAL (RABBIT)

> 2,000 mg/kg (rat) Adjudicated

LC_{50} INHALATION (RAT, 4 H)

> 5.5 mg/L (rat, 4 h) Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

APPLICATIONS

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

Oxygen scavenger and boiler water treatment ineos.com

Preservative in the photo developer process ineos.com

Flue gas desulfurization 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

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

Keep tightly closed in a cool, ventilated area in polyethylene, fiberglass or stainless-steel containers, away from acids and oxidizers. Protect from freezing (crystallizes near 5 °C).

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

Acids (release toxic sulfur dioxide gas); oxidizing agents; nitrites and nitrates.

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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UN2693, Bisulfites, aqueous solutions, n.o.s. (Sodium bisulfite), 8, PG III
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Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS	PLACARD	PACKING GROUP
65	Corrosive	PG III

REVISION HISTORY

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

VERSION	DATE	CHANGE	TRIGGER
1.7	2026-10-08	Canonical data updated: 22 fields changed via the provenance/adjudication pipeline. • ghsClassification · canonical change (coa.data_provenance / adjudication) • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication) • synonyms · canonical change (coa.data_provenance / adjudication) • odor · canonical change (coa.data_provenance / adjudication) • pH · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • flashPoint · 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) • viscosity · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · 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) • restrictions_on_use · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.6	2026-10-07	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. • ghsClassification · canonical change (coa.data_provenance / adjudication) • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication)	canonical_change
1.5	2026-10-05	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • oel_niosh_rel · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	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
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

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.