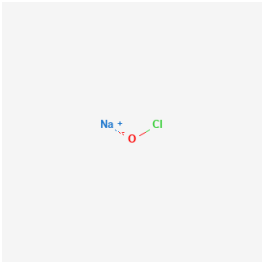
Technical Data Sheet

Sodium Hypochlorite 12.5%

Technical · 12.5%

Alliance Code	Revised	Revision
sodium-hypochlorite-12-5	2026-10-20	1.10

CAS number 7681-52-9	UN number UN1791	Hazard class · packing group 8 · PG III
 Structure · PubChem	Grade Technical · 12.5%	Signal word **Danger**

Hazards

Corrosive | Environmental hazard | EUH031 H290 H314 H400 H411

Proper shipping name

Hypochlorite solutions

IDENTITY & COMPOSITION

PRODUCT NAME
Sodium Hypochlorite 12.5%

ALLIANCE CODE
sodium-hypochlorite-12-5

GRADE
Technical

CONCENTRATION
12.5% w/w

CAS NUMBER
7681-52-9 PubChem

FORMULA
NaOCl Adjudicated

MOLECULAR WEIGHT
74.44 PubChem

PRODUCT TYPE
Solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Total Alkalinity	0.1 - 1.5 wt%	—	—	Interpreted
Bromate (12.5% Basis)	39 ppm Max	—	—	Interpreted
Chlorate (12.5% Basis)	3,570 ppm Max	—	—	Interpreted
Cobalt (Co)	0.1 ppm Max	—	—	Interpreted
Excess Sodium Carbonate (wt.%)	0.25 max	—	—	Interpreted
Insolubles	0.15 wt% Max	—	—	Interpreted
Sodium Hydroxide (NaOH)	0.1 - 1.2 wt%	—	—	Interpreted
Assay (NaOCl)	12.5 - 13.5 % w/w	—	—	Interpreted
Copper	< 0.5 ppm	—	—	Interpreted
Available chlorine (as Cl2)	11.9 - 12.9 % w/w	—	—	Interpreted
Iron	< 1.0 ppm	—	—	Interpreted
Nickel	< 0.5 ppm	—	—	Interpreted
Chlorate (ClO_3)	3000 Max mg/L	—	Ion chromatography, EPA 300.1	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 Technical	12.5%	—	current
Technical	8.25%	—	sodium-hypochlorite-8-25
Technical	6%	—	sodium-hypochlorite-6
Technical	5.25%	—	sodium-hypochlorite-5-25
Technical	3%	—	sodium-hypochlorite-3
Technical	2%	—	sodium-hypochlorite-2
Technical	1%	—	sodium-hypochlorite-1
Technical	—	—	sodium-hypochlorite-10

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	Pale yellow liquid	Adjudicated
Form	Liquid solution	Published reference
Color	Clear/Greenish Yellow	Interpreted
Odor	Chlorine (bleach) odor	Adjudicated
pH	12.5 - 13.5	Interpreted
Specific Gravity	1.195 at 20/20 °C (water = 1)	Adjudicated
Density	1.1929 g/cm^3 at 20 °C	Adjudicated
Boiling Point	110 °C (230 °F) (aqueous solution)	Adjudicated
Melting Point	-27 to -15 °C (-17 to 5 °F), freezing point (aqueous solution)	Adjudicated
Flash Point	Not applicable	Adjudicated
Vapor Pressure	12–17.5 mmHg (1.6–2.3 kPa) at 20 °C	Adjudicated
Solubility (water)	29.3 g/100 g (0 °C) in water	Published reference
Viscosity	1.75–2.5 mPa·s (varies with temperature)	Adjudicated

Oxidizer — decomposition rate and gas-evolution data may apply. Consult the SDS for material-of-construction guidance under shipping and storage conditions.

MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 12.5%

MOC ratings are required for this chemical class but no compatibility data has been seeded yet. Treat as no-data and consult Alliance Technical Services before equipment selection.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER
UN1791 Adjudicated

HAZARD CLASS
8 Adjudicated

PACKING GROUP
III Adjudicated

PROPER SHIPPING NAME
Hypochlorite solutions Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD
Danger Adjudicated

H-CODES (HAZARD STATEMENTS)
EUH031, H290, H314, H400, H411 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)
P234, P260, P264, P273, P280, P301+P330+P331, P303+P361+P353, P304+P340, P305+P351+P338, P310, P313, P321, P363, P390, P391, P405, P406, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
2 mg/m^3 TWA (CAS 1310-73-2) Adjudicated

ACGIH TLV
2 mg/m^3 Ceiling (CAS 1310-73-2) Adjudicated

NIOSH REL
2 mg/m^3 Ceiling (CAS 1310-73-2) Adjudicated

NIOSH IDLH
10 mg/m^3 (CAS 1310-73-2) Adjudicated

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)
8200–8910 mg/kg (CAS 7681-52-9)

Adjudicated

LD_{50} DERMAL (RABBIT)
> 10000 mg/kg (CAS 7681-52-9)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

APPLICATIONS

Industrial bleaching, oxidizing and cleaning agent. Adjudicated

Restrictions on Use: Never mix with acids, ammonia or other cleaning products: this releases toxic chlorine or chloramine gas. Not represented by Alliance Chemical as a disinfectant, sanitizer or drinking-water treatment.

STORAGE & HANDLING

RECOMMENDED STORAGE

Store out of direct sunlight in a cool area, below 21 °C (70 °F), in the original vented container. Do not freeze. Keep away from acids, ammonia and organic materials. Strength declines with time and temperature.

Adjudicated

HANDLING PRECAUTIONS

Use PPE including face shield, chemical-resistant gloves, and apron. Avoid contamination — never return unused material to the original container. Ground all transfer equipment.

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

INCOMPATIBILITIES

Acids (release toxic chlorine gas); ammonia and ammonium compounds (form chloramines); reducing agents; hydrogen peroxide; organic and combustible materials; metals such as copper, nickel, cobalt, iron, aluminum and zinc.

Adjudicated

SHELF LIFE

3 months from date of manufacture in sealed, original packaging

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)

```
UN1791, Hypochlorite solutions, 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 2026-10-20 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.10	2026-10-20	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • `density` · canonical change (coa.data_provenance / adjudication) • `specificGravity` · canonical change (coa.data_provenance / adjudication)	`canonical_change`

VERSION	DATE	CHANGE	TRIGGER
1.9	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
1.8	2026-10-05	Canonical data updated: 22 fields changed via the provenance/adjudication pipeline. • hazard_p_codes · canonical change (coa.data_provenance / adjudication) • ghsClassification · canonical change (coa.data_provenance / adjudication) • formula · canonical change (coa.data_provenance / adjudication) • synonyms · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · canonical change (coa.data_provenance / adjudication) • storage_precautions · 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) • oel_osha_pel · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • oel_niosh_rel · canonical change (coa.data_provenance / adjudication) • oel_idlh · canonical change (coa.data_provenance / adjudication) • oel_other · canonical change (coa.data_provenance / adjudication) • odor · canonical change (coa.data_provenance / adjudication) • odorThreshold · canonical change (coa.data_provenance / adjudication) • vaporPressure · canonical change (coa.data_provenance / adjudication) • viscosity · canonical change (coa.data_provenance / adjudication) • decompositionTemperature · canonical change (coa.data_provenance / adjudication) • dot_transport_note · canonical change (coa.data_provenance / adjudication) • cercla_rq · canonical change (coa.data_provenance / adjudication)	canonical_change
1.7	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
1.6	2026-09-10	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • flashPoint · canonical change (coa.data_provenance / adjudication)	canonical_change
1.5	2026-08-12	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	2026-08-05	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • packingGroup · canonical change (coa.data_provenance / adjudication) • unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.3	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
1.2	2026-07-17	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • dotProperShippingName · canonical change (coa.data_provenance / adjudication)	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.