

TECHNICAL DATA SHEET

Sodium Hypochlorite 12.5%

12.5%

CAS NUMBER
7681-52-9

ALLIANCE CODE
sodium-hypochlorite-12-5

GENERATED
2026-07-17

1. IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Sodium Hypochlorite 12.5%	sodium-hypochlorite-12-5
GRADE	CONCENTRATION
—	12.5%
CAS NUMBER	FORMULA
7681-52-9 PubChem	ClNaO PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
74.44 PubChem	solution

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE —	12.5%	—	current
—	8.25%	—	sodium-hypochlorite-8-25
—	5.25%	—	sodium-hypochlorite-5-25
—	—	—	sodium-hypochlorite-1
—	—	—	sodium-hypochlorite-10
—	—	—	sodium-hypochlorite-2

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
—	—	—	sodium-hypochlorite-3
—	—	—	sodium-hypochlorite-6

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

One or more physical-property values are temporarily suppressed pending verification against vendor COA data. For complete properties refer to the Safety Data Sheet (SDS) or contact sales@alliancechemical.com.

FORM

Liquid solution [Product record](#)

SPECIFIC GRAVITY (20 °C)

1.19 [Product record](#)

BOILING POINT

Not characterized for the 12.5% solution

[Product record](#)

FLASH POINT

null [Product record](#)

SOLUBILITY (WATER)

29.3 g/100 g (0 °C) in water [Product record](#)

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

ODOR

Disagreeable, sweetish odor [Product record](#)

DENSITY

1.19 (12.5% w/w aqueous solution, 20 °C)

[Product record](#)

MELTING POINT

Not characterized for the 12.5% solution

[Product record](#)

VAPOR PRESSURE

Vapor pressure, kPa at 20 °C: 2 – 2.5

[Product record](#)

MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 12.5%

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Not recommended	—	Rapid degradation; never use with oxidizers.	Parker O-ring Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
EPDM Elastomer	Fair	60	Service below 35 %; swelling and embrittlement above.	Parker O-ring Chemical Compatibility
Viton (FKM) Elastomer	Poor	—	Use EPDM or PTFE for sealing	Solvay H2O2 Safety & Handling
PTFE Fluoropolymer	Excellent	100	Gaskets, lining; best-in-class	Solvay H2O2 Safety & Handling
PVDF Fluoropolymer	Excellent	80	Preferred fluoropolymer for piping	Solvay H2O2 Safety & Handling
PVDF (Kynar) Fluoropolymer	Excellent	100	Standard for high-purity peroxide service.	Solvay H2O2 Materials of Construction
Borosilicate Glass Glass Ceramic	Excellent	100	Inert to all oxidizers within normal service temperatures.	Cole-Parmer Chemical Compatibility
Concrete (untreated) Glass Ceramic	Not recommended	—	Reactive; line with HDPE/FRP	Solvay H2O2 Safety & Handling
304 stainless steel Metal	Good	40	May darken; acceptable for short-term storage	Solvay H2O2 Safety & Handling
304 Stainless Steel Metal	Fair	40	Surface oxidation at higher concentrations; passivate before service.	Cole-Parmer Chemical Compatibility
316 stainless steel Metal	Excellent	40	Passivated surfaces preferred	Solvay H2O2 Safety & Handling
316L stainless steel Metal	Excellent	60	Welds require post-weld passivation	Solvay H2O2 Safety & Handling

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
316L Stainless Steel Metal	Good	60	Passive layer stable; avoid prolonged service above 60 °C.	Solvay H2O2 Materials of Construction
Aluminium 1100/3003 Metal	Good	40	Limit to dilute service	Solvay H2O2 Safety & Handling
Brass Metal	Not recommended	—	Copper-induced decomposition	Solvay H2O2 Safety & Handling
Carbon steel Metal	Not recommended	—	Catalytic decomposition; not for any service	Solvay H2O2 Safety & Handling
Carbon Steel Metal	Not recommended	—	Rapid corrosion; never use with oxidizers.	Cole-Parmer Chemical Compatibility
Copper Metal	Not recommended	—	Catalytic decomposition; severe	Solvay H2O2 Safety & Handling
CPVC Thermoplastic	Good	60	Acceptable to 60 °C	Solvay H2O2 Safety & Handling
HDPE Thermoplastic	Good	50	Concentrations ≤ 50%; vented containers only	Solvay H2O2 Safety & Handling
Polypropylene Thermoplastic	Good	25	Service below 35 % at ambient; avoid above 25 °C.	Cole-Parmer Chemical Compatibility
PVC Thermoplastic	Fair	40	Embrittlement risk above 40 °C	Solvay H2O2 Safety & Handling

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

UN1791 **Vendor Label**

PACKING GROUP

III **Adjudicated**

HAZARD CLASS

8 **Adjudicated**

PROPER SHIPPING NAME

Hypochlorite solution **Adjudicated**

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger **Adjudicated**

H-CODES (HAZARD STATEMENTS)

EUH031, H290, H314, H400, H410 **Adjudicated**

P-CODES (PRECAUTIONARY STATEMENTS)

P260, P264, P273, P280, P301+P330+P331,
P303+P361+P353, P304+P340, P305+P351+P338,
P310, P313, P321, P363, P391, P405, P501...

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— **unknown**

ACGIH TLV

— **unknown**

NIOSH REL

— **unknown**

NIOSH IDLH

— **unknown**

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.

Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for Sodium Hypochlorite 12.5%. Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

APPLICATION GUIDANCE

Sodium Hypochlorite 12.5% is supplied for applications where controlled, selective oxidation is required. Grade selection drives the choice between bulk industrial oxidation, electronics/semiconductor cleaning, and pharmaceutical-grade disinfection.

- Pulp and textile bleaching
- Wastewater treatment and odor control
- Etching and surface cleaning (electronics-grade only)
- Disinfection and sterilization (food/pharma-grade only)
- Chemical synthesis and polymerization initiation

Materials of construction must be rated for the concentration and temperature in service. Avoid contact with reducing agents, transition metals, and organic combustibles.

STORAGE & HANDLING

RECOMMENDED STORAGE

Cool, well-ventilated area, away from heat, sunlight, and combustibles. Vented containers only — pressure may develop from slow...

INCOMPATIBILITIES

Combustible materials, organic compounds, reducing agents, transition metal salts (catalytic decomposition), strong bases.

HANDLING PRECAUTIONS

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

SHELF LIFE

24 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 solution, 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
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REVISION HISTORY

Last reviewed 2026-05-20 by Hossein Taki, Vice President (Vice President, Alliance Chemical · CAGE Code 1LT50 · DOT Hazmat Registrant #2188383).

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.

ALLIANCE CHEMICAL

Order Sodium Hypochlorite 12.5%

Bulk & packaged sizes · COA/SDS ships with every order