NANO TECHNOLOGY
CHEMICALS

Safety Data Sheet

Sodium Hypochlorite (Bleach)

The pages that follow are the Safety Data Sheet as issued by the supplier/manufacturer. They are provided unchanged by Nano Technology Chemicals (NTC). Refer to Section 1 of the attached SDS for the responsible party and emergency telephone number.

Questions about this product or document:

Nano Technology Chemicals, Charlotte, NC
Phone: 704-659-3682
Email: sales@nanotechnologychemicals.com
Web: nanotechnologychemicals.com

Cover sheet date: October 12, 2026. For the SDS revision date, see the attached document.

In an emergency, use the emergency telephone number in Section 1 of the attached SDS.

SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

LIQUICHLOR® 12.5% SOLUTION

Version	Revision Date:	SDS Number:	Date of last issue: 06/15/2026
1.4	07/01/2026	100000072639	Date of first issue: 02/01/2023

SECTION 1. IDENTIFICATION

Product Identifier : LIQUICHLOR® 12.5% SOLUTION
Product code : 000000000016148059
Synonyms : Bleach

Manufacturer or supplier's details

Company : Univar Solutions USA
Address 3250 Lacey Rd., Suite 600
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:

Univar Solutions USA**:-**CHEMTREC: 1-800-424-9300
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Phone: 1-855-429-2661
Regulatory Information Number: 1-855-429-2661
Email: SDSNA@univarsolutions.com

Recommended use of the chemical and restrictions on use

Recommended use : refer to EPA registered label for specific uses

SECTION 2. HAZARD IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Corrosive to metals : Category 1

Skin corrosion : Category 1B

Serious eye damage : Category 1

Other hazards

None known.

Hazards associated with a change in physical form:

No data available

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements :

Prevention:

P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.

Storage:

P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards resulting from a reaction with other chemicals under normal conditions of use:

No data available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent	Trade secret
7681-52-9	Sodium hypochlorite	12.5	-
1310-73-2	Sodium hydroxide	0 - 5	-

Actual concentration is withheld as a trade secret
Any concentration shown as a range is due to batch variation.

Synonyms : Bleach

SECTION 4. FIRST-AID MEASURES

General advice	:	Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	Take victim immediately to hospital. Move to fresh air. If breathing has stopped, apply artificial respiration. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing. If irritation develops, get medical attention. Burns must be treated by a physician.
In case of eye contact	:	In case of eye contact Immediately flush eye(s) with plenty of water. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If easy to do, remove contact lens, if worn. If eye irritation persists, consult a specialist. Take victim immediately to hospital.
If swallowed	:	Take victim immediately to hospital. Do NOT induce vomiting. Rinse mouth with water. If victim is fully conscious, give a cupful of water. If a person vomits when lying on his back, place him in the recovery position.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Carbon dioxide (CO2) Foam Dry powder
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known

Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment and precautions for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Precautions for safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7681-52-9	Sodium hypochlorite	STEL	2 mg/m3	US WEEL
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0

Engineering measures : Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	:	liquid
Colour	:	clear yellow
Odour	:	Chlorine
Odour Threshold	:	No data available
pH	:	11.5 - 13
Freezing point (Melting point/freezing point)	:	-20 - -15 °C (-4 - 5 °F)

Boiling point ()	:	230 °F (230 °F) Decomposition: Decomposition temperature
Flash point	:	Not Flammable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	12 - 17.5 mmHg @ 20 °C (68 °F)
Relative vapour density	:	No data available
Relative density	:	1.17 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	1.17 g/cm3
Solubility(ies)		
Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available
Particle characteristics	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Combustible material Halogenated compounds Metals metal salts Organic materials organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

7681-52-9:

Acute oral toxicity : LD50 (Rat, male): > 2,000 mg/kg
Method: OECD Test Guideline 401
GLP: no

Skin corrosion/irritation

Components:

7681-52-9:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Causes burns.

1310-73-2:

Species : Rabbit
Result : Causes severe burns.

Serious eye damage/eye irritation

Components:

7681-52-9:

Species : Rabbit
Result : Risk of serious damage to eyes.
Method : OECD Test Guideline 405

1310-73-2:

Species : Rabbit
Result : Risk of serious damage to eyes.

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

STOT - single exposure

Components:

7681-52-9:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

7681-52-9:

Toxicity to fish : LC50 (Salmo gairdneri (Rainbow Fish)): 0.06 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Pimephales promelas (fathead minnow)): 5.9 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.141 mg/l
Exposure time: 48 h
Test Type: flow-through test
Method: OECD Test Guideline 202
GLP: yes

EC50 (Ceriodaphnia dubia): 0.035 mg/l
Exposure time: 48 h
Test Type: flow-through test

Toxicity to algae/aquatic plants : IC50: 0.023 mg/l
Exposure time: 7 d
Test Type: flow-through test

M-Factor (Acute aquatic toxicity) : 10

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

1310-73-2:

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 125 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia): 40.4 mg/l
Exposure time: 48 h
Test Type: Immobilization

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 1791
Proper shipping name	:	Hypochlorite solution
Class	:	8
Packing group	:	III
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG-Code

UN number	:	UN 1791
Proper shipping name	:	HYPOCHLORITE SOLUTION (SODIUM HYPOCHLORITE)
Class	:	8
Packing group	:	III
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR Road

UN/ID/NA number	:	UN 1791
Proper shipping name	:	Hypochlorite solutions
Class	:	8
Packing group	:	III
Labels	:	CORROSIVE
ERG Code	:	154
Marine pollutant	:	yes(SODIUM HYPOCHLORITE)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

CAS-No.	Components	Component RQ (lbs)	Calculated product RQ (lbs)
7681-52-9	Sodium hypochlorite	100	800
1310-73-2	Sodium hydroxide	1000	20000

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

7681-52-9	Sodium hypochlorite	>= 10 - < 20 %
1310-73-2	Sodium hydroxide	>= 5 - < 10 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

7681-52-9	Sodium hypochlorite	>= 10 - < 20 %
1310-73-2	Sodium hydroxide	>= 5 - < 10 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

Pennsylvania Right To Know

7732-18-5	Water
7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

California List of Hazardous Substances

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

California Permissible Exposure Limits for Chemical Contaminants

1310-73-2 Sodium hydroxide

The components of this product are reported in the following inventories:

TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
CA. DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	not determined

TSCA list

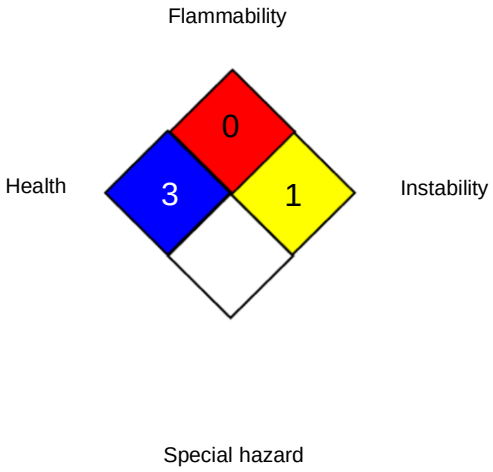
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

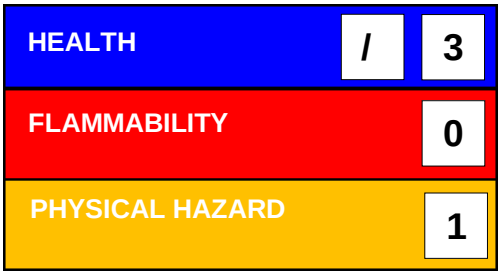
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / C	:	Ceiling limit
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA P0 / C	:	Ceiling limit
OSHA Z-1 / TWA	:	8-hour time weighted average
US WEEL / STEL	:	Short-Term TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Admin-

istration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 07/01/2026

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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