



CENTRALBIDDING
FROM CENTRAL AUCTION HOUSE

**Chemicals for St. Bernard Parish Government, Department of Public
Works, Water and Sewer Division**
St. Bernard Parish Government

Project documents obtained from www.CentralBidding.com
25-Oct-2024 07:25:07 AM

***INVITATION TO BID
FROM
ST. BERNARD PARISH***

***St. Bernard Parish Government
Department Of Public Works
1125 East St. Bernard Highway
Chalmette, Louisiana 70043***



Specifications

***Bid for Chemicals for St. Bernard Parish Government, Department of Public Works,
Water and Sewer Division***

**Poly-dadmac
Sludge Dewatering Polymer
Liquid Chlorine (Ton Containers)
Liquid Chlorine (150 lb. Cylinders)
Anhydrous Ammonia
Aluminum Sulfate (Liquid Alum 48%)
Sodium Hypochlorite (12.5% Bleach)
Sodium Thiosulfate (30% Solution)**

**Prepared By:
Department of Public Works
St. Bernard Parish Government
1125 East St. Bernard Highway
Chalmette, Louisiana 70043**

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ADVERTISEMENT FOR BIDS

ST. BERNARD PARISH GOVERNMENT
DEPARTMENT OF PUBLIC WORKS
STATE OF LOUISIANA

Sealed Bids will be received until the hour of 2:00 p.m. on Thursday, November 7, 2024, in the Office of the Department of Public Works, St. Bernard Parish Government located at 1125 East St. Bernard Highway, Chalmette, Louisiana and opened at 2:00 p.m., at which time they will be publicly read, for:

Bid for Chemicals for St. Bernard Parish Government, Department of Public Works, Water and Sewer Division

**Poly-dadmac
Sludge Dewatering Polymer
Liquid Chlorine (Ton Containers)
Liquid Chlorine (150 lb. Cylinders)
Anhydrous Ammonia
Aluminum Sulfate (Liquid Alum 48%)
Sodium Hypochlorite (12.5% Bleach)
Sodium Thiosulfate (30% Solution)**

To be a valid delivery, Sealed Bids must be delivered electronic by Central Bidding or by hand to St. Bernard Parish Government, Department of Public Works, 1125 East St. Bernard Highway, Chalmette, Louisiana during normal business hours of 8:30 a.m. to 4:30 p.m. Monday through Friday on or before 2:00 p.m. on Thursday, November 7, 2024.

Sealed bids delivered to any other St. Bernard Parish Government location or other room number prior to the bid receipt deadline will not be considered.

The specifications are on file and may be secured from the St. Bernard Parish Government, Department of Public Works, 1125 East St. Bernard Highway, Chalmette, Louisiana 70043 (504) 278-4314 tdoskey@sbsp.net.

Bids may also be viewed and submitted online at www.centralauctionhouse.com.

St. Bernard Parish Government is an Equal Opportunity Employer. St. Bernard Parish Government also encourages all small and minority-owned firms and women's business enterprises (DBE's, including MBE's, WBE's and SBE's) to apply.

/s/Hillary J. Nunez, Jr.
Hillary J. Nunez, Jr.
Director
Department of Public Works

For Publication on: October 18, 2024
 October 25, 2024

GENERAL CONDITIONS

1. It is the policy of the St. Bernard Parish Government not to do business with any firm, individual, partnership or corporation employing or owned by any individual who is an employee of the St. Bernard Parish Government.
2. St. Bernard Parish Government encourages the participation of small businesses and businesses owned by women and minorities in the parish's procurement activity.
3. St. Bernard Parish is tax exempt. All prices for procurement by St. Bernard Parish Government for supplies and materials shall be quoted in the unit measure specified unless otherwise specified shall be exclusive of state and parish taxes.
4. All delivery charges must be included in all bids unless it is stated in the bid package that the St. Bernard Parish Government will pick up all materials in writing.
5. Contract will be for a one year period with an option to renew for an additional one year. Contract Renewal must be mutually agreed upon by both parties.
6. St. Bernard Parish reserves the right to cancel at any time for any reason by issuing a thirty day written notice to the vendor.
7. Bid shall be good and may not be withdrawn for a period of 45 calendar days after the scheduled closing time for receiving of Bids.
8. Bids may be withdrawn by the bidder if done by affidavit within 48 hours of bid opening, but only for patently obvious, unintentional and substantial mechanical, clerical or mathematical errors.
9. St. Bernard Parish reserves the right to reject any or all bids
10. Bids will be received as stated in the Advertisement for Bids. It is the sole responsibility of the bidder to submit the bid to the designated time and place. Bids received after closing time will be returned unopened to the Bidder.
11. Bid to be awarded to lowest responsive/responsible bidder meeting specifications on each item.
12. ~~Bid must be enclosed in a sealed envelope with the submitting company name and address as well as the project title~~ **"Bid for Chemicals for St. Bernard Parish Government, Department of Public Works, Water and Sewer Division"** on the outside of the envelope.

13. The Non-Collusion Affidavit and Statutory Affidavit must be completed and notarized. Both affidavits must be returned with the bid.
14. The Employment Letter must be completed and returned with the bid.
15. The bid form must be properly signed by the Bidder. A corporate resolution must be submitted with the bid or the person signing the bid documents must be listed on the Louisiana Secretary of State's website. If bidder is registered out of state of Louisiana, a corporate resolution must be submitted with the bid. Satisfactory evidence of the authority of the person signing on behalf of the individual, firm or partnership must be attached. Failure to comply will cause bid to be rejected and the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in the event. A sample corporate resolution is enclosed in the bid package.
16. Quantities listed are for bidding purposes only. Quantities may be more or less than quantities listed.
17. If addenda(s) are issued, Bidder must acknowledge Addenda on the Bid Form
18. All invoices must be mailed as follows:

St. Bernard Parish Government
Accounts Payable Department
8201 West Judge Perez Drive
Chalmette, Louisiana 70043

NON-COLLUSION
AFFIDAVIT

STATE OF LOUISIANA

PARISH OF Cristhianne Munguia BEING FIRST

DULY SWORN, DEPOSES AND SAYS:

SHE
THAT HE IS Bid Coordinator OF

Allied Universal Corporation

(CONTRACTOR)

THE PARTY MAKING THE FOREGOING PROPOSAL OR BID, THAT SUCH BID IS GENUINE AND NOT COLLUSIVE, NOR A SHAM; THAT SAID BIDDER HAS NOT COLLUDED, CONSPIRED, CONNIVED, OR AGREED, DIRECTLY OR INDIRECTLY, WITH ANY BIDDER OR PERSON, TO PUT IN A SHAM BID OR TO REFRAIN FROM BIDDING, AND HAS NOT IN ANY MANNER DIRECTLY OR INDIRECTLY, SOUGHT BY AGREEMENT OR COLLUSION, OR COMMUNICATION OR CONFERENCE, WITH ANY PERSON, TO FIX THE BID PRICE ELEMENT OR SAID BID, OR OF THAT OF ANY OTHER BIDDER OR TO SECURE ANY ADVANTAGE AGAINST ANY OTHER BIDDER OR TO ANY PERSON INTERESTED IN THE PROPOSED CONTRACT; AND THAT ALL STATEMENTS CONTAINED IN SAID PROPOSAL OR BID ARE TRUE.

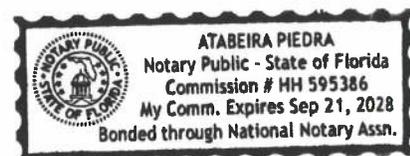
(SIGNATURE OF BIDDER)

THE ABOVE STATEMENTS MUST BE SUBSCRIBED AND SWORN TO BEFORE A NOTARY PUBLIC.

SUBSCRIBED AND SWORN TO THIS 31st DAY OF October,
2024.

NOTARY PUBLIC

NA-1



STATUTORY AFFIDAVIT
Required by RS 38:2224

STATE OF LOUISIANA

PARISH OF Cristhianne Munguia BEING FIRST

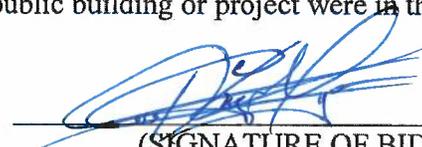
DULY SWORN, DEPOSES AND SAYS:

~~HE~~ SHE IS Bid Coordinator OF

Allied Universal Corporation
(CONTRACTOR)

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.



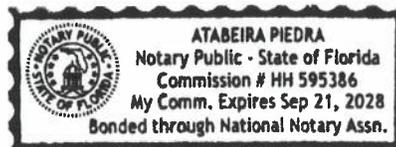
(SIGNATURE OF BIDDER)

THE ABOVE STATEMENTS MUST BE SUBSCRIBED AND SWORN TO BEFORE A NOTARY PUBLIC.

SUBSCRIBED AND SWORN TO THIS 31st DAY OF October,
2024.



NOTARY PUBLIC



EMPLOYMENT LETTER

Department of Public Works
St. Bernard Parish Government
1125 East St. Bernard Highway
Chalmette, Louisiana 70043

This is to certify that no one employed by this organization, or having an owner relationship with this organization, is an employee of the St. Bernard Parish Government.

I further assure you that we will not make any payments to any employees or elected officials of St. Bernard Parish as a result or a condition of doing business with the St. Bernard Parish Government.

Signed	 _____
Name	<u>Cristhianne Munguia</u> (print or type)
Title	<u>Bid Coordinator</u>
Company	<u>Allied Universal Corporation</u>
Date	<u>October 31, 2024</u>

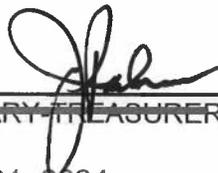
**SAMPLE
CORPORATE RESOLUTION**

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF _____, INCORPORATED.

AT THE MEETING OF DIRECTORS OF Allied Universal Corporation,
INCORPORATED, DULY NOTICED AND HELD ON June 11, 2024,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED.
IT WAS:

RESOLVED. THAT Cristhianne Munguia, BE AND IS HEREBY APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS AND TRANSACTIONS WITH THE PARISH OF ST. BERNARD OR ANY OF ITS AGENCIES, DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO THE EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES, CONTRACTS AND ACTS AND TO RECEIVE AND RECEIPT THEREFOR ALL PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING AND ACCEPTING EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE AND CORRECT COPY OF AN EXCERPT OF THE MINUTES OF THE ABOVE DATED MEETING OF THE BOARD OF DIRECTORS OF SAID CORPORATION, AND THE SAME HAS NOT BE REVOKED OR RESCINDED.



SECRETARY-TREASURER President/CEO

October 31, 2024

DATE

Technical Specifications

Item A: Poly-Dadmac

Product must be a water soluble cationic poly-diallyl-dimethyl-ammonium chloride. Product must be resistant to chloramines and must be capable of functioning as a primary coagulant without any additional additives. Shelf life shall be no less than twelve (12) months. Must be approved by E.P.A. and LA. Department of Health and meet A.W.W.A. specifications for use in potable water treatment at a dosage of 0.5 – 10 ppm. **The polymer shall be at least 20% active chemical.** Manufacturer shall conduct trail test in the St. Bernard Parish Water Treatment Plant prior to awarding of bid contract. Delivery of the chemical shall be made at the polymer storage tanks, located at Water Treatment Plant #1. **POLYDYNE C 308-P or EQUAL.** Minimum shipment of 1500 gallons.

Item B: Sludge Dewatering Polymer

Product must be cationic, molyacrylamide emulsion polymer capable of functioning as a primary dewatering polymer without the aid of additional additives. Minimum shipment of 275-gallon tote. **POLYDYNE CLARIFLOC C-6286 or EQUAL.**

Item C: Liquid Chlorine (Ton Containers)

Product must be shipped in one ton containers. Chlorine needs to be delivered within five days of placement of order. Minimum shipment of 8 tons.

Item D: Liquid Chlorine (150 Lb. Cylinders)

Product must be shipped in 150 lb. cylinders. Chlorine needs to be delivered within five days of placement of order. Minimum shipment of 15 cylinders.

Item E: Anhydrous Ammonia

Product must meet E.P.A and A.W.W.A. approval for use in potable water treatment. Product must be delivered to owner via supplier supplied 500-gallon tank.

Metallurgical Grade (M Grade)
Ammonia Assay: 99.9965 Min
Ammonia Assay: 99.999 Typical
Water (ppm): 33 Max
Water (ppm): 10 Typical
Oil (ppm): 2 Max
Oil (ppm): 1 Typical

Item F: Aluminum Sulfate (Liquid Alum 48%)

Product must be delivered in liquid and priced per dry ton. Alum must be NSF approved for potable water. Liquid Aluminum Sulfate must be manufactured with **Kaolin Clay as the raw material source.** Delivery shall be to owner supplied 5000 gallon bulk tank, with minimum shipments of 4000 gallons.

Item G Sodium Hypochlorite (12.5% Bleach)

Product must be approved for use in potable water and wastewater treatment plants. Product shall be a 12.5% solution and delivered to owner supplied bulk shipment tanks. Minimum shipments of 4500 – 5000 gallons.

Item H Sodium Thiosulfate (30% Solution)

Product must be approved for use in potable water and wastewater treatment plants. Product shall be a 30% solution and delivered to owner via supplier supplied 330-gallon tote.

All prices quoted on items A through H shall include shipping charges.

Special Conditions – Deliveries

1. Item A, C, E, and F shall be delivered to the following address:

St. Bernard Parish Government
Department of Public Works
Water and Sewer Division
1111 East St. Bernard Highway
Chalmette, Louisiana 70043

2. Item D shall be delivered to the following address:

Reggio Booster Pump Station
4400 East Louisiana Highway 46
St. Bernard, Louisiana 70085

3. Item B, G and H shall be delivered to the following address:

Munster Waste Water Treatment Plant
3300 Munster Boulevard
Meraux, Louisiana 70075

BID FORM

St. Bernard Parish Government
Department of Public Works
1125 East St. Bernard Highway
Chalmette, Louisiana 70043

Ladies/Gentlemen,

Having examined the Specifications the undersigned in compliance with your invitation to bid hereby proposed to furnish the following for the price listed below:

Item No.	Description	Unit Price	Quantity	Total
A	Poly-dadmac	\$ <u>No Bid</u> lb.	120,450 lbs.	\$ <u>-----</u>
B.	Sludge Dewatering Polymer	\$ <u>No Bid</u> lb.	11,680 lbs.	\$ <u>-----</u>
C.	Liquid Chlorine (Ton Containers)	\$ <u>0.86</u> /lb.	164,250 lbs.	\$ <u>141,255.00</u>
D.	Liquid Chlorine (150 lb. Cylinders)	\$ <u>No Bid</u> lb.	5,475 lbs.	\$ <u>-----</u>
E.	Anhydrous Ammonia	\$ <u>No Bid</u> lb.	31,025 lbs.	\$ <u>-----</u>
F.	Aluminum Sulfate (Liq. Alum 48%)	\$ <u>No Bid</u> ton	150 tons.	\$ <u>-----</u>
G.	Sodium Hypochlorite (12.5%Bleach)	\$ <u>1.94</u> /gal.	146,000 gals.	\$ <u>283,240.00</u>
H.	Sodium Thiosulfate (30 % Solution)	\$ <u>No Bid</u> gal.	17,160 gals.	\$ <u>-----</u>

Quantities are estimates only on a per annual contract

The undersigned agrees that this Bid shall be good and may not be withdrawn for a period of 45 calendar days after the scheduled closing time for receiving of Bids.

The following additional items are attached to this Bid Form:

- a) Non-Collusion Affidavit
- b) Statutory Affidavit
- c) Employment Letter
- d) Satisfactory evidence of the authority of person signing bid/proposal form. (As per General Conditions – Item No. 15)

The Bidder acknowledges receipt of, and makes part of this Proposal, the following addenda:

Allied Universal Corporation
Company's Name

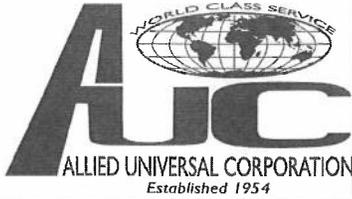

Signature

Bid Coordinator
Title

3901 NW 115 Avenue
Miami, FL 33178
Address

305-888-2623
Telephone Number

Bids@allieduniversal.com
E-Mail Address



Headquarters
3901 NW 115th Avenue
Miami, Florida 33178
305-888-2623 office
305-885-4671 fax

RESOLVED that Cristhianne Munguia, Bid Coordinator for Allied Universal Corporation, be authorized to sign and submit the Contract of this corporation for the following project:

Supply and Delivery of Sodium Hypochlorite and Chlorine to St. Bernard Parish Government.

This bid or proposal shall include any other certificate of certification, which may be required by general municipal, state, or federal law(s). Such inclusion shall be the act and deed of this corporation, and for any inaccuracies or misstatements in such certificates or certifications this corporate bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by Allied Universal Corporation at the meeting of its Board of Directors held on the 11th day of June 2024.

(Seal of Corporation)




Jim Palmer, President - CEO

8350 NW 93 Street
Miami, Florida 33166
AUC Medley- 305-888-2623

9501 Rangeline Road
Ft. Pierce, Florida 34987
AUC Ft. Pierce- 772-464-6195

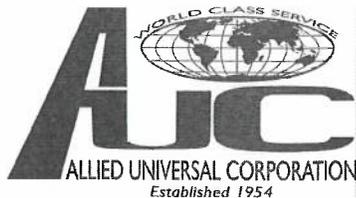
9545 Rangeline Road
Ft. Pierce, Florida 34987
ANT 1 Ft. Pierce - 772-464-6195

2815 Inland Transport St.
Palmetto, Florida 34221
ANT 2 Manatee - 941-803-4457

14770 Old Saint Augustine Road
Jacksonville, FL 32207
AUC Jacksonville- 904-619-6180

30 Neil Gunn Drive
Ellisville, MS 39437
AUC Ellisville - 601-477-2550

204 SCM Road
Brunswick, GA 31525
AUC Brunswick - 912-267-9470



Headquarters
3901 NW 115th Avenue
Miami, Florida 33178
305-888-2623 office
305-885-4671 fax

EXPERIENCE & AFILIATES

October 2024

Allied Universal Corporation is a privately owned company, which has been in business since 1954. Our Corporate Headquarters is located at 3901 N.W. 115 Avenue, Miami, FL 33178.

There are presently 7 delivery locations. In the following we also package Chlorine Gas and manufacture Sodium Hypochlorite. Miami, FL; Ft. Pierce, FL; Palmetto, FL; Brunswick, GA and Ellisville, MS. The following are our Terminals: Jacksonville, FL and Dothan, AL
We have serviced Utilities and Municipalities, in 22 states, for over 60 years. We also distribute other water treatment chemicals, swimming pool chemicals, and some chemicals for industrial use.

The delivering facility which will supply St. Bernard Parish Government is our Ellisville, MS facility by our affiliate company, Transportation Services Unlimited, with a dedicated fleet of over 100 tractors and tankers, with an employee complement of approximately 275 people.

The Ellisville, MS facility is located at 30 Neil Gunn Dr, Ellisville, MS 39437. With normal delivery lead time of 3 work days. Contact name for all deliveries is Erin Jordan, phone number 601-477-2550 Ext.1003, e-mail ellisvilledispatch@allieduniversal.com. He is available from 6:30 a.m. until 3:30 p.m.

Other key personnel is: Bobby Boykin Branch Manager 601-477-2550, Ext. 1001 and Don Couche Region 2. Operations Manager 941-993-2548.

If you have any questions or concerns on any of this information, please contact Cristhianne Munguia, Bid Coordinator, Allied Universal Corporation, 3901 N.W. 115 Avenue, Miami, FL 33178, phone number (305) 888-2623/Ext. 0125; E-Mail, Bids@Allieuniversal.com

Allied Universal Corporation



Cristhianne Munguia
Bid Coordinator

8350 NW 93 Street
Miami, Florida 33166
AUC **Medley**- 305-888-2623

9501 Rangeline Road
Ft. Pierce, Florida 34987
AUC **Ft. Pierce**- 772-464-6195

9545 Rangeline Road
Ft. Pierce, Florida 34987
ANT 1 **Ft. Pierce** - 772-464-6195

2815 Inland Transport St.
Palmetto, Florida 34221
ANT 2 **Manatee** - 941-803-4457

14770 Old Saint Augustine Road
Jacksonville, FL 32207
AUC **Jacksonville**- 904-619-6180

30 Neil Gunn Drive
Ellisville, MS 39437
AUC **Ellisville** - 601-477-2550

204 SCM Road
Brunswick, GA 31525
AUC **Brunswick** - 912-267-9470



The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Friday, October 25, 2024** at 12:15 a.m. Eastern Time. Please contact NSF to confirm the status of any Listing, report errors, or make suggestions.

Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information:

<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?>

[CompanyName=Allied+Universal+Corporation&ChemicalName=Chlorine&PlantCountry=UNITED+STATES&](http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=Allied+Universal+Corporation&ChemicalName=Chlorine&PlantCountry=UNITED+STATES&)

NSF/ANSI/CAN 60 Drinking Water Treatment Chemicals - Health Effects

Allied Universal Corporation

3901 Northwest 115th Avenue

Miami, FL 33178

United States

800-981-6700

305-888-2623

Visit this company's website

(<http://www.allieduniversal.com>)

Facility : Miami, FL

Chlorine[CL]

Trade Designation

Chlorine

Product Function

Disinfection & Oxidation

Max Use

30mg/L

[CL] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Facility : Brunswick, GA

Chlorine[CL]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Chlorine	Disinfection & Oxidation	30 mg/L

[CL] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Facility : Ellisville, MS

Chlorine[CL]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Chlorine	Disinfection & Oxidation	30 mg/L

[CL] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Number of matching Manufacturers is 1

Number of matching Products is 3

Processing time was 0 seconds

SAFETY DATA SHEET

1. Identification

Product identifier	Chlorine	
Other means of identification		
SDS number	AUC-005	
Synonyms	Liquid Chlorine * Elemental Chlorine * Molecular chlorine * Compressed Chlorine Gas	
Recommended use	Production of chlorinated inorganic and organic chemicals; bleaching agent for paper, textiles and fabrics; used in water purification, sewage disinfection and food processing.	
Recommended restrictions	Professional use only	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Allied Universal Corporation	
Address	3901 N.W. 115th Avenue Miami, FL 33178 United States	
Telephone	General:	1-305-888-2623
	24-Hour alert:	1-786-522-0207
Website	www.allieduniversal.com	
E-mail	Not available.	
Contact person	Operations Department	
Emergency phone number	CHEMTREC	1-800-424-9300 (US/Canada) +01 703-527-3887 (International)
Supplier	Refer to Manufacturer	

2. Hazard(s) identification

Physical hazards	Oxidizing gases	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Acute toxicity, inhalation	Category 2
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
OSHA defined hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Label elements		



Signal word	Danger
Hazard statement	May cause or intensify fire; oxidizer. Contains gas under pressure; may explode if heated. Causes severe skin burns and eye damage. Fatal if inhaled. May cause respiratory irritation. Very toxic to aquatic life.
Precautionary statement	
Prevention	Keep/Store away from clothing and other combustible materials. Keep reduction valves free from grease and oil. Do not breathe gas. Use only outdoors or in a well-ventilated area. Wear respiratory protection. Wash hands and face thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Avoid release to the environment.

Response	Specific treatment is urgent (see this label). IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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 or doctor/physician. In case of fire: Stop leak if safe to do so. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	No OSHA defined hazard classes. Other hazards which do not result in classification: Toxic fumes, gases or vapors may evolve on burning. Chlorine is extremely corrosive to most metals in the presence of moisture (> 150 ppm water and/or -40 degrees F dew point) or at high temperatures. Combines with water to produce hydrochloric and hypochlorous acid. Severe, short-term exposures may cause long-lasting respiratory effects, e.g. Reactive Airways Dysfunction (RADS), due to the material's severe irritating properties. Contact with liquefied gas might cause frostbites, in some cases with tissue damage. Direct contact with liquefied gas may cause frostbite and corrosive injury to the eyes.
Supplemental information	Keep away from heat. Make sure valves on gas cylinders are fully opened when gas is used. Open cylinder valve slowly to prevent rapid decompression and damage to valve seat. Use smallest possible amounts in designated areas with adequate ventilation. Liquid chlorine lines must have suitable expansion chambers between block valves due to high coefficient of expansion. Shut flow off at cylinder valve and not just at the regulator after use. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Secure cylinders in an upright position at all times, close all valves when not in use. Establish written emergency plan and special training where chlorine is used. Regularly inspect and test piping and containers used for chlorine service.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Chlorine	Liquid Chlorine Elemental Chlorine Molecular chlorine Compressed Chlorine Gas	7782-50-5	99.5

4. First-aid measures

Inhalation	Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment, use the buddy system). IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediately call a POISON CENTER or doctor/physician.
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Do not rub area of contact. Gently remove clothing or jewelry. Carefully cut around clothing that sticks to the skin. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician. Discard any shoes or clothing items that cannot be decontaminated.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take care not to rinse contaminated water into the unaffected eye or onto the face. Do not rub eyes. Immediately call a POISON CENTER or doctor/physician.
Ingestion	Not an expected route of entry under normal conditions of use. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Most important symptoms/effects, acute and delayed

Fatal if inhaled. Immediately dangerous to life or health (IDLH) at 10 ppm. May cause severe irritation to the nose, throat, and respiratory tract. Symptoms may include coughing, choking and wheezing. Could also cause tightness in the chest, a blue discoloration of the skin (cyanosis), severe headache, nausea, vomiting and fainting. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death. Severe, short-term exposures may cause long-lasting respiratory effects, e.g. Reactive Airways Dysfunction (RADs), due to the material's severe irritating properties. With this condition, asthma-like symptoms and increased reactivity of the airways is experienced.

Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. If product is sprayed directly into the eyes, could cause freezing of the eye.

Indication of immediate medical attention and special treatment needed

Immediate medical attention is required. Fatal if inhaled. Causes chemical burns. Symptoms may be delayed. Keep victim under observation. Medical supervision for minimum 48 hours. Provide general supportive measures and treat symptomatically.

General information

First-aid procedures should be reviewed by appropriate personnel familiar with chlorine and its conditions of use in the workplace.

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Extinguishing media - small fires: Dry chemicals. Carbon dioxide (CO₂).
Extinguishing media - large fires: Water Spray or Fog, Foam.

Unsuitable extinguishing media

Use water with caution. May react with water. Do not use direct water spray or water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Pressurized container may explode when exposed to heat or flame. May react to cause fire and or explosion upon contact with many organic compounds, ammonia, hydrogen and with many metals at elevated temperatures. Chlorine will support the burning of most combustible materials. Combines with water to produce hydrochloric and hypochlorous acid. Liquefied chlorine can accumulate static charge by flow or agitation, since it has a very low electrical conductivity. Chlorine containers or cylinders may vent rapidly or rupture violently, if exposed to fire or excessive heat for a sufficient period of time. Intense local heat (above 200 deg C) on the steel walls of chlorine cylinders can cause an iron/chlorine fire resulting in rupture of the container. Vapors are heavier than air and may spread along floors. Toxic fumes, gases or vapors may evolve on burning.

Special protective equipment and precautions for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. A full-body chemical resistant suit should be worn.

Fire fighting equipment/instructions

Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. Remove combustible materials. Stop the flow of gas before extinguishing fire, if safe to do so. Use water spray to direct escaping gas away from workers if it is necessary to stop the flow of gas. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Stay away from ends of cylinders and withdraw immediately in case of rising sounds or discoloration of containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

The product itself does not burn. However, material is considered to be an oxidizing gas. Supporter of combustion and can intensify a fire.

Hazardous combustion products

Toxic chemicals are formed when combustible materials burn in chlorine. These may include corrosive hydrogen chloride gas and other chlorine compounds.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean-up. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Consider initial downwind evacuation for at least 500 meters (1/3 mile). Ensure clean-up is conducted by trained personnel only. Ventilate closed spaces before entering them. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Remove or isolate incompatible materials as well as other hazardous materials. Do not spray leak with water since a reaction producing corrosive hypochlorous and hydrochloric acids occurs, which can aggravate the leak.

May be absorbed and neutralized into solutions of caustic soda, or lime and placed in polypropylene, polyvinyl chloride, fibreglass or lead containers. Since hypochlorites are formed, the solutions must be treated with a reducing agent such as sodium sulfite before disposal. Do not immerse container in caustic solution.

Large Spills: Large uncontrollable leaks require environmental considerations and possible evacuation of the surrounding area. When possible draw off chlorine to process or disposal system

Contact the proper local authorities.

For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent entry into waterways, sewer, basements or confined areas. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and storage**Precautions for safe handling**

Establish written emergency plan and special training where chlorine is used.

Use only outdoors or in a well-ventilated area. Wear respiratory protection. Wear protective gloves/clothing and eye/face protection. See Section 8 of the SDS for Personal Protective Equipment. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Regularly inspect and test piping and containers used for chlorine service. Liquid chlorine lines must have suitable expansion chambers between block valves due to high coefficient of expansion. Keep away from heat. Keep/Store away from clothing and other combustible materials. Keep reduction valves free from grease and oil. Use only chlorine compatible lubricants. Use smallest possible amounts in designated areas with adequate ventilation. Shut flow off at cylinder valve and not just at the regulator after use. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Protect against physical damage. Wash hands after handling and before eating.

Conditions for safe storage, including any incompatibilities

Store in steel pressure cylinders in a cool, dry area outdoors or in well-ventilated, detached or segregated areas of non-combustible construction. Keep container tightly closed. Store locked up. Protect from sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Do not store near combustible materials. Wood and other organic materials should not be used on floors, structural materials, or ventilation systems in the storage area. Store away from incompatible materials (see Section 10 of the SDS). Secure cylinders in an upright position at all times, close all valves when not in use. Use a "first in - first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Store at temperatures not exceeding 55°C (131°F). For the specified temperature the system pressure is 225 psig (1551 kPa).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Material	Type	Value
Chlorine (CAS 7782-50-5)	Ceiling	3 mg/m ³ 1 ppm

US. ACGIH Threshold Limit Values

Material	Type	Value
Chlorine (CAS 7782-50-5)	STEL	0.4 ppm/0.29 mg/m ³
	TWA	0.1 ppm/1.16 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Chlorine (CAS 7782-50-5)	Ceiling	1.45 mg/m ³ 0.5 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

The NIOSH IDLH concentration for Chlorine is 10 ppm.

Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. In case of insufficient ventilation, wear suitable respiratory equipment.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear eye/face protection. Chemical goggles are recommended. Wear a full-face respirator, if needed. A full face shield may also be necessary. Eye wash fountains are required.
Skin protection	
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.
Other	Wear appropriate chemical-resistant clothing. Where contact is likely, wear chemical-resistant gloves, a chemical suit and rubber boots. Eye wash facilities and emergency shower must be available when handling this product.
Respiratory protection	Up to 5 ppm: A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Up to 10 ppm: A SAR (supplied air respirator) operated in a continuous flow mode or powered air purifying respirator with cartridge(s); a full facepiece chemical cartridge respirator with cartridge(s); a gas mask with canister; a full facepiece SCBA (self contained breathing apparatus) ; or a full facepiece SAR may be used to reduce exposure. EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Do not breathe gas. Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product. Remove soiled clothing and wash it thoroughly before reuse. Inform laundry personnel of contaminant's hazards.

9. Physical and chemical properties

Appearance

Physical state	Gas (or liquid under pressure).
Form	Compressed liquefied gas.
Color	Amber color; vaporizes to greenish, yellow gas.
Odor	Pungent suffocating odor
Odor threshold	0.02 - 3.4 ppm (detection)
pH	Not applicable (reacts with water to form an acidic solution)
Melting point/freezing point	-149.8 °F (-101 °C)
Initial boiling point and boiling range	-30.28 °F (-34.6 °C)
Flash point	Not Applicable
Evaporation rate	Not Applicable. Gas at normal temperatures.
Flammability (solid, gas)	The product is not flammable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not Applicable
Flammability limit - upper (%)	Not Applicable
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	638.4 kPa @ 20°C (68°F) 4788 mm Hg @ 20°C (68°F)
Vapor density	2.49 @ 0°C (32°F) (Air = 1)
Relative density	3.21 kg/m ³ @ 0°C (32°F)

Solubility(ies)	
Solubility (water)	6.3 mg/l (Slightly soluble)
Solubility (other)	Soluble in dimethylformamide, disulfur dichloride, benzene, chloroform, carbon tetrachloride, hexachlorobutadiene, tetrachloroethane, pentachloroethane, chlorobenzene, nitrobenzene, glacial acetic acid (99.84%) and other chlorides
Partition coefficient (n-octanol/water)	Not applicable (gas)
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Viscosity temperature	Not Applicable (Gas)
Other information	
Critical temperature	290.75 °F (143.75 °C)
Explosive properties	Not explosive.
Molecular weight	70.91
Oxidizing properties	Strong oxidizing agent because of its electron-transfer capabilities. Supporter of combustion and can intensify a fire. Note, that Chlorine does not yield oxygen or any other oxidizing substance.
Specific gravity	0.003 @ 0°C (32°F)

10. Stability and reactivity

Reactivity	Combines with water to produce hydrochloric and hypochlorous acid. These acids can decompose to hydrochloric acid and oxygen. Contact with combustible material may cause fire.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur. Chlorine is extremely corrosive to most metals in the presence of moisture (> 150 ppm water and/or -40 degrees F dew point) or at high temperatures. Will support or initiate combustion or explosion of organic matter and other oxidizable material. Note, that Chlorine does not yield oxygen or any other oxidizing substance. Liquid or gaseous chlorine can react violently with many combustible materials, and other chemicals, including water. Metal halides, carbon, finely divided metals and sulfides can accelerate the rate of chlorine reactions. Chlorine reacts with carbon monoxide to produce toxic phosgene, and sulfur dioxide to produce sulfuryl chloride. Intense local heat (above 200 deg C) on the steel walls of chlorine cylinders can cause an iron/chlorine fire resulting in rupture of the container.
Conditions to avoid	Keep away from combustible materials. Avoid contact with incompatible materials. Keep away from heat. Do not use in areas without adequate ventilation.
Incompatible materials	Tin; Metals; Sulfides; Titanium. Reacts with most metals at high temperatures. Reacts with water to produce hydrochloric acids, which are corrosive to most metals. Ammonia, elemental metals, certain metal hydroxides, carbides, nitrides, oxides, phosphides and sulfides, easily oxidized materials, organic materials, reducing agents, alkalis and unstable and reactive compounds.
Hazardous decomposition products	Hydrogen chloride gas. Hydrochloric acid. Hypochlorous acid.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Very toxic by inhalation. Fatal if inhaled. May cause severe irritation to the nose, throat, and respiratory tract.
Skin contact	Causes skin burns. Contact with liquefied gas might cause frostbites, in some cases with tissue damage. Not expected to be absorbed through the skin.
Eye contact	Causes severe eye burns. If product is sprayed directly into the eyes, could cause freezing of the eye.
Ingestion	Not an expected route of entry under normal conditions of use.

Most important symptoms/effects, acute and delayed

Fatal if inhaled. Immediately dangerous to life or health (IDLH) at 10 ppm. May cause severe irritation to the nose, throat, and respiratory tract. Symptoms may include coughing, choking and wheezing. Could also cause tightness in the chest, a blue discoloration of the skin (cyanosis), severe headache, nausea, vomiting and fainting. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death. Severe, short-term exposures may cause long-lasting respiratory effects, e.g. Reactive Airways Dysfunction (RADS), due to the material's severe irritating properties. With this condition, asthma-like symptoms and increased reactivity of the airways is experienced.

Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. If product is sprayed directly into the eyes, could cause freezing of the eye.

Information on toxicological effects

Acute toxicity

Hazardous by OSHA criteria. Classification:
Acute Toxicity (inhalation - gas) - Category 2. Fatal if inhaled.
See below for individual ingredient acute toxicity data.

Product

Species

Test Results

Chlorine (CAS 7782-50-5)

Acute

Dermal

LD50

Rabbit

No data in literature.

Inhalation

LC50

Rat

147 ppm, 4 Hours

Oral

LD50

Rat

No data in literature.

Skin corrosion/irritation

Hazardous by OSHA criteria. Classification:
Skin corrosion/irritation - Category 1. Causes severe skin burns.

Serious eye damage/eye irritation

Hazardous by OSHA criteria. Classification:
Serious eye damage/eye irritation - Category 1. Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization

This product is not expected to cause respiratory sensitization.

Skin sensitizer

This product is not expected to cause skin sensitization.

Germ cell mutagenicity

Not expected to be mutagenic.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. See below for ingredients present on regulatory lists.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Hazardous by OSHA criteria. Classification:
Specific Target Organ Toxicity (STOT), Single Exposure. Category 3. May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Not expected to be hazardous by OSHA criteria.

Aspiration toxicity

Not likely, due to the form of the product. Not expected to be an aspiration hazard.

Chronic effects

Prolonged or repeated exposure to low concentrations may cause drying and cracking of the skin, respiratory effects, gum disorders and painless destruction of teeth
Limited occupational studies with long-term exposure to low concentrations, have not shown significant respiratory effects.
Long-term animal studies confirm that chlorine is a severe irritant to the upper and lower respiratory tract.

12. Ecological information

Ecotoxicity

Very toxic to aquatic life. See below for individual ingredient ecotoxicity data.

Product	Species	Test Results
Chlorine (CAS 7782-50-5)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) 0.005 mg/l, 48 hours (mg Free Available Chlorine/L)
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 0.014 mg/l, 96 hours

Persistence and degradability Free chlorine is consumed upon contact with living tissues making measurement of biodegradation impossible and unnecessary.

Bioaccumulative potential Not expected to be bio accumulative.

Mobility in soil The product itself has not been tested.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1017

UN proper shipping name Chlorine (CHLORINE)

Transport hazard class(es)

Class 2.3

Subsidiary risk 5.1, 8

Label(s) 2.3, 5.1, 8

Packing group Not applicable.

Environmental hazards

Marine pollutant Yes

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. US CERCLA Reportable Quantity (RQ): 10 lbs / 4.54 kg

Special provisions 2, B9, B14, N86, T50, TP19

Packaging exceptions None

Packaging non bulk 304

Packaging bulk 314, 315

IATA

UN number UN1017

UN proper shipping name Chlorine

Transport hazard class(es)

Class 2.3

Subsidiary risk 5.1, 8

Packing group Not applicable.

Environmental hazards Yes

ERG Code 2CP

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Refer to Special Provision A2 for shipping information.

Other information

Passenger and cargo aircraft Forbidden

Cargo aircraft only Forbidden

IMDG

UN number UN1017
UN proper shipping name CHLORINE
Transport hazard class(es)

Class 2.3

Subsidiary risk 5.1, 8

Packing group Not applicable.

Environmental hazards

Marine pollutant Yes

EmS F-C, S-U

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT



IATA; IMDG



Marine pollutant



General information

This product meets the criteria for an environmentally hazardous mixture, according to the IMDG Code.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Chlorine (CAS 7782-50-5)

Listed.

SARA 304 Emergency release notification

Chlorine (CAS 7782-50-5) 10 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Oxidizing Gases, Gas under pressure
 Acute Toxicity
 Skin Damage
 Eye Damage
 Specific Target Organ Toxicity, single exposure

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
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Chlorine	7782-50-5	10	100 lbs		
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SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Chlorine	7782-50-5	99.5

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Chlorine (CAS 7782-50-5)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chlorine (CAS 7782-50-5)

Clean Water Act (CWA) Hazardous substance**US FIFRA Registered Pesticide** Yes

Safe Drinking Water Act (SDWA) 4 mg/l
 4.0 mg/l

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Chlorine (CAS 7782-50-5)

US. New Jersey Worker and Community Right-to-Know Act

Chlorine (CAS 7782-50-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Chlorine (CAS 7782-50-5)

US. Rhode Island RTK

Chlorine (CAS 7782-50-5)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Material name: Chlorine

AUC-005 Version #: 03 Issue date: 01-07-2015, Revision Date 09-09-2021

SDS US

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Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	01-07-2015	Revision date	09-09-2021
Version #	03		
HMIS	H: 4 F: 0 R: 1		
NFPA	H: 4 F: 0 R: 0 Other: OX		



Certified to NSF/ANSI 60

List of abbreviations

Maximum use level for Chlorine in potable water is 30 mg/L.

- ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation and Liability Act of 1980
- CFR: Code of Federal Regulations
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to-Know Act
- ERG: Emergency Response Guidebook
- HSDB® - Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association
- IBC: Intermediate Bulk Container
- IDLH: immediately dangerous to life or health
- IMDG: International Maritime Dangerous Goods
- LC: Lethal Concentration
- LD: Lethal Dose
- NIOSH: National Institute of Occupational Safety and Health
- NOEC: No observable effect concentration
- NTP: National Toxicology Program
- OECD: Organization for Economic Cooperation and Development
- OEL: National occupational exposure limits
- OSHA: Occupational Safety and Health Administration
- PEL: Permissible exposure limit
- RCRA: Resource Conservation and Recovery Act
- RQ: Reportable Quantity
- RTECS: Registry of Toxic Effects of Chemical Substances
- SAR: supplied-air respirator
- SCBA: self-contained breathing apparatus
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average
- UN: United Nations

Disclaimer

Prepared by: ICC The Compliance Center Inc. 1-888-442-9628
<http://www.thecompliancecenter.com>

Disclaimer

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This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Allied Universal Corporation

Bibliography

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(Chempendium, RTECs, HSDB, INCHEM)
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Material Safety Data Sheet from manufacturer.
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The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Friday, October 25, 2024** at 12:15 a.m. Eastern Time. Please [contact NSF](#) to confirm the status of any Listing, report errors, or make suggestions.

Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information:

<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?>

[CompanyName=Allied+Universal+Corporation&ChemicalName=Sodium+Hypochlorite&PlantCountry=UNITED+STATES&](http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=Allied+Universal+Corporation&ChemicalName=Sodium+Hypochlorite&PlantCountry=UNITED+STATES&)

NSF/ANSI/CAN 60 Drinking Water Treatment Chemicals - Health Effects

Allied Universal Corporation

3901 Northwest 115th Avenue

Miami, FL 33178

United States

800-981-6700

305-888-2623

[Visit this company's website](#)

(<http://www.allieduniversal.com>)

Facility : # 2 Jacksonville, Florida

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aqua Guard Chlorinating Sanitizer	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5% Chlorine	Disinfection & Oxidation	100mg/L
<hr/>		
By Weight		
Aqua Guard Sodium Hypochlorite 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5% By Weight	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Facility : Fort Pierce, FL

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aqua Guard Chlorinating Sanitizer	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5%	Disinfection & Oxidation	100 mg/L
Aqua Guard Sodium Hypochlorite 10.5% By Weight	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Facility : Miami, FL

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
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Aqua Guard Chlorinating Sanitizer 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5% By Weight	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite	Disinfection & Oxidation	100mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Facility : Palmetto, FL

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aqua Guard Chlorinating Sanitizer	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5% By Weight	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite 10.5% Chlorine By Weight	Disinfection & Oxidation	100mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

Facility : Brunswick, GA

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aqua Guard Bleach	Disinfection & Oxidation	74mg/L
Aqua Guard Bleach 12.5%	Disinfection & Oxidation	74mg/L
Aqua Guard Chlorinating Sanitizer	Disinfection & Oxidation	87mg/L
Aqua Guard Chlorinating Sanitizer 10.5%	Disinfection & Oxidation	87mg/L
Aqua Guard Sodium Hypochlorite 10.5%	Disinfection & Oxidation	87mg/L
Aqua Guard Sodium Hypochlorite 12.5%	Disinfection & Oxidation	74mg/L
Sodium Hypochlorite 10.5%	Disinfection & Oxidation	87mg/L
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	74mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Facility : Ellisville, MS

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aqua Guard Bleach	Disinfection & Oxidation	84mg/L
Aqua Guard Bleach 12.5%	Disinfection & Oxidation	84mg/L
Aqua Guard Chlorinating Sanitizer	Disinfection & Oxidation	100mg/L
Aqua Guard Chlorinating Sanitizer 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 10.5%	Disinfection & Oxidation	100mg/L
Aqua Guard Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L
Sodium Hypochlorite 10.5%	Disinfection & Oxidation	100mg/L
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and

Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

NOTE: Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

Allied Universal Corporation

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Miami, FL 33178

United States

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(<http://www.allieduniversal.com>)

Facility : # 3 USA

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aqua Guard Bleach	Disinfection & Oxidation	84mg/L
Aqua Guard Bleach 12.5%	Disinfection & Oxidation	84mg/L
Aqua Guard Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

Number of matching Manufacturers is 2

Number of matching Products is 48

Processing time was 0 seconds

SAFETY DATA SHEET

1. Identification

Product identifier	Sodium Hypochlorite, 10-15% Solution	
Other means of identification		
SDS number	AUC-004	
Synonyms	Aqua Guard Chlorinating Santizier * Aqua Guard Bleach * Aqua Guard Sodium Hypochlorite 10.5% * Aqua Guard Sodium Hypochlorite 12.5% * Sodium Hypochlorite * Liquid Bleach * Bleach * Hypo	
Recommended use	Swimming pool chemical, hard surface cleaner, water treatment, bleaching, textiles, cooling towers, laundry sanitizer and agricultural/ aquacultural purposes	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Allied Universal Corporation	
Address	3901 N.W. 115th Avenue Miami, FL 33178 United States	
Telephone	General:	1-305-888-2623
	24-Hour alert:	1-786-522-0207
Website	www.allieduniversal.com	
E-mail	Not available.	
Contact person	Operations Department	
Emergency phone number	CHEMTREC	1-800-424-9300 (US/Canada) +01 703-527-3887 (International)
Supplier	Refer to Manufacturer	

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
OSHA defined hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Label elements		



Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.

Wear protective gloves/clothing and eye/face protection.

Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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 or doctor/physician. Specific treatment (see this label). Wash contaminated clothing before reuse.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	No OSHA defined hazard classes. Other hazards which do not result in classification: Contact with most acids may liberate and toxic gas. Chronic skin contact with low concentrations may cause dermatitis.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium Hypochlorite	HYPOCHLORITE SOLUTION	7681-52-9	10-15.5
Sodium hydroxide	Caustic soda Lye Soda lye	1310-73-2	1-5
Other components below reportable levels			80-90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, trained personnel should give oxygen. Call a physician or poison control center immediately.
Skin contact	Immediately flush skin with running water for at least 20 minutes. Take off immediately all contaminated clothing. Take off immediately all contaminated clothing. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse. Cover wound with sterile dressing. Do not rub area of contact. Leather and shoes that have been contaminated with the solution may need to be destroyed.
Eye contact	Immediately flush eyes with plenty of water for at least 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing for 10-15 minutes. Call a physician or poison control center immediately. Take care not to rinse contaminated water into the unaffected eye or onto the face.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. If swallowed: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.
Indication of immediate medical attention and special treatment needed	Immediate medical attention is required. Causes chemical burns. Treat symptomatically.

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
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5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide. Use water with caution. Contact with water will generate considerable heat.
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Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire. Do not use dry chemical extinguishing agents. Maleic anhydride may react with the basic sodium compounds. Use chemical extinguishing agents with caution. Some chemical extinguishing agents may react with this material.
Specific hazards arising from the chemical	Not considered flammable. Vapors are heavier than air and may spread along floors. Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Toxic fumes, gases or vapours may evolve on burning.
Special protective equipment and precautions for firefighters	Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.
Fire fighting equipment/instructions	Fight fire with normal precautions from a reasonable distance. Evacuate the area promptly. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Vapors are heavier than air and may spread along floors.
Hazardous combustion products	Hydrogen gas. Hydrogen chloride. Chlorine. Oxygen. Sodium oxides.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Ventilate the area. Remove sources of ignition. Stop leak if you can do so without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Remove with vacuum trucks or pump to storage/salvage vessels. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Small spills can be neutralized by covering with a reducing agent, such as Sodium thiosulfate or Sodium sulphite. If not recoverable, dilute with water or flush to holding area and neutralize. Never return spills to original containers for re-use. Contact the proper local authorities. Contaminated absorbent material may pose the same hazards as the spilled product. For waste disposal, see Section 13.
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Label containers appropriately. When using, do not eat, drink or smoke. Do not taste or swallow. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Avoid ultraviolet (UV) light sources. Inspect periodically for damage or leaks. Store in corrosive resistant container with a resistant inner liner. Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Store away from and do not mix with incompatible materials such as acids, oxidizers, organics, reducing agents and all metals except titanium. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
SODIUM HYPOCHLORITE (CAS 7681-52-9)	STEL	2 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Chemical goggles and face shield are recommended. Eye wash facilities and emergency shower must be available when handling this product.
Skin protection	
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.
Other	Where contact is likely, wear chemical-resistant gloves, chemical protective clothing, rubber boots, and chemical safety goggles plus a face shield. Use of an impervious apron is recommended.

Respiratory protection	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Particulate filter.
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Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
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General hygiene considerations	When using, do not eat, drink or smoke. Do not breathe mist. Avoid contact with eyes, skin and clothing. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.
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9. Physical and chemical properties

Appearance	Clear yellow/green liquid.
Physical state	Liquid.
Form	Liquid.
Color	Clear to yellow/green.
Odor	Pungent. Chlorine-like.
Odor threshold	Not available.
pH	11 - 13
Melting point/freezing point	-150 °F (-101.11 °C)
Initial boiling point and boiling range	> 212 °F (> 100 °C)
Flash point	Not Applicable
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not Applicable
Flammability limit - lower (%) temperature	Not Applicable

Flammability limit - upper (%)	Not Applicable
Flammability limit - upper (%) temperature	Not Applicable
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	12 mm Hg
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.18 g/cm ³
Molecular formula	NaOCl
Molecular weight	74.4
Specific gravity	1.165-1.23

10. Stability and reactivity

Reactivity	Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Reacts with amines and ammonia compounds to form explosively unstable compounds. May be corrosive to metals. May be corrosive to: Aluminum. Stainless steel. Carbon steel. Copper. Bronze
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Reacts vigorously or violently with many organic and inorganic chemicals such as: acids, acrolein, acrylonitrile, chlorinated hydrocarbons (e.g. 1,2 dichloroethylene), chlorine dioxide, maleic anhydride, nitroethane, nitroparaffins, 2-nitrophenol, nitropropane, phosphorus, potassium persulfate, and tetrahydrofuran (containing peroxides).
Conditions to avoid	Direct sources of heat. Avoid high temperatures. Direct sunlight. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Do not allow evaporation to dryness.
Incompatible materials	Metals. Strong oxidizing agents. Acids. Amines. Ammonia. Reducing agents. Nitrites. Organic compounds.
Hazardous decomposition products	None known, refer to hazardous combustion products in Section 5. In the event of fire the following can be released: Chlorine. Sodium chlorate.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause irritation to the respiratory system. May cause severe irritation to the nose, throat, and respiratory tract.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract.

Most important symptoms/effects, acute and delayed

Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Information on toxicological effects

Acute toxicity Not expected to be hazardous by OSHA criteria. There is no available data for the product itself, only for the ingredients. See data for individual ingredient acute toxicity data.

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	No Data in Literature
<i>Inhalation</i>		
LC50	Rat	No Data in Literature
<i>Oral</i>		
LD50	Rat	No Data in Literature
Sodium Hypochlorite (CAS 7681-52-9)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 10000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5.25 mg/l/4h
<i>Oral</i>		
LD50	Rat	8910 mg/kg

Skin corrosion/irritation Hazardous by OSHA criteria. Causes severe skin burns. Causes severe skin burns and eye damage. Skin corrosion/irritation - Category 1.

Serious eye damage/eye irritation Hazardous by OSHA criteria. Causes serious eye damage. Serious eye damage/eye irritation - Category 1

Respiratory or skin sensitization

Respiratory sensitization Not expected to be a respiratory sensitizer.

Skin sensitizer Not expected to be hazardous by OSHA criteria. Not expected to be a skin sensitizer.

May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals.

Germ cell mutagenicity Not expected to be mutagenic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium Hypochlorite (CAS 7681-52-9) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Hazardous by OSHA criteria. May cause respiratory irritation. Specific Target Organ Toxicity (STOT), Single Exposure, Category 3.

Specific target organ toxicity - repeated exposure Not classified as a specific target organ toxicity -repeated exposure.

Aspiration toxicity Not expected to be an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Chronic skin contact with low concentrations may cause dermatitis.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Ceriodaphnia dubia) 40 mg/l, 48 hours

Components	Species	Test Results
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) 125 mg/l, 96 hours
Sodium Hypochlorite (CAS 7681-52-9)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 0.169 mg/l, 48 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 0.58 mg/l, 96 hours

Persistence and degradability	Biodegradation is not applicable to inorganic substances.
Bioaccumulative potential	No accumulation in living organisms is expected due to high solubility and dissociation properties.
Mobility in soil	High water solubility indicates a high mobility in soil.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1791
UN proper shipping name	HYPOCHLORITE SOLUTIONS (RQ = 100)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, N34, T4, TP2, TP24
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

This product does meet the definition of a marine pollutant as described in 49 CFR section 171.8.

IATA

UN number	UN1791
UN proper shipping name	HYPOCHLORITE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	NO
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number UN1791
UN proper shipping name HYPOCHLORITE SOLUTION
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT



IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.
Sodium Hypochlorite (CAS 7681-52-9) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)
 Sodium Hypochlorite (CAS 7681-52-9)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)
 Sodium Hypochlorite (CAS 7681-52-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)
 Sodium Hypochlorite (CAS 7681-52-9)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)
 Sodium Hypochlorite (CAS 7681-52-9)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

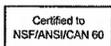
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
 A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-03-2020
Version # 04
HMIS H: 3 F: 0 R: 1
NFPA H: 3 F: 0 R: 1



List of abbreviations

Maximum use level for Sodium hypochlorite under NSF/ANSI Standard 60 - Maximum use in potable water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation and Liability Act of 1980
 CFR: Code of Federal Regulations
 DOT: Department of Transportation
 DSL: Domestic Substance List
 EC: European Community
 EINECS: European Inventory of Existing Commercial chemical Substances
 EPA: Environmental Protection Agency
 EPCRA: Emergency Planning and Community Right-to-Know Act
 HSDB@ - Hazardous Substances Data Bank
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association
 IBC: Intermediate Bulk Container
 IMDG: International Maritime Dangerous Goods
 LC: Lethal Concentration
 LD: Lethal Dose
 NOEC: No observable effect concentration
 NTP: National Toxicology Program
 OECD: Organisation for Economic Cooperation and Development
 OSHA: Occupational Safety and Health Administration
 PPE: Personal Protective Equipment
 RCRA: Resource Conservation and Recovery Act
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 TLV: Threshold Limit Values
 TWA: Time Weighted Average

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Disclaimer

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