



CHLORINE
LIQUIFIED GAS UNDER PRESSURE
NONFLAMMABLE

FOR USE AS A DISINFECTANT AND/OR ALGICIDE, by experienced personnel only, in municipal water supplies, sewage and waste management plants, and in commercial and industrial swimming pools; as a slimicide in water cooling systems and in paper mills; and for sanitizing non porous food contact surfaces; and for treating fruit and vegetables.

ACTIVE INGREDIENT:

Chlorine (CAS No. 7782-50-5)	99.5%
OTHER INGREDIENTS:	0.5%
TOTAL	100.0%

EPA Reg. No.: 72315-1

EPA Est. No.: 72315-AL-001, 72315-GA-001, 72315-NY-001, 72315-TN-001, 71207-CAN-002

61667-CA-001, 61667-CA-002, 61667-LA-001, 61667-NV-001, 61667-WA-002

[On production label, either only one est. number or the following note will appear: "Producing establishment is marked."]

KEEP OUT OF REACH OF CHILDREN

DANGER  **POISON**
FATAL IF INHALED. LIQUID CAUSES SEVERE BURNS.

FIRST AID

If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

FOR ALL ACCIDENTS, CALL CHEMTREC AT 1-800-424-9300 (in USA),
OR NEWALTA AT 1-800-567-7455 (in CANADA)



[Manufactured for] OLIN CHLOR ALKALI PRODUCTS, 490 Stuart Road N.E., Cleveland, TN 37312

Net Wt: 90 Tons

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS**

DANGER. Corrosive. Causes irreversible eye damage and skin burns. Fatal if swallowed, inhaled, or absorbed through skin. Do not get in eyes, on skin or clothing. Do not breathe vapor. Wear safety glasses or goggles, protective clothing and rubber gloves as discussed below. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse. **PERSONAL PROTECTIVE EQUIPMENT:** Handlers must wear long-sleeved shirts, long pants, shoes, and socks. **In Case Of Spill Or Leakage:** Under normal use-conditions, no protective eyewear, respirator, or gloves are required. However, in case of a spill or leak, handlers must wear chemical-resistant gloves (such as nitrile or butyl) and a full-face canister-style (gas mask) respirator with a canister approved for chlorine (MSHA/NIOSH approval number prefix TC-14G) OR a self contained breathing apparatus (SCBA) (MSHA/NIOSH approval number prefix TC-13F). Since there is always the possibility of a spill or leak, gloves and a respirator of a type specified above must be available and are required for anyone entering into an affected area in the event of a leak or spill. **ENVIRONMENTAL HAZARDS:** This pesticide is toxic or highly toxic to fish and aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact the regional office of the Environmental Protection Agency. **CHEMICAL-PHYSICAL HAZARDS:** Chlorine is a nonflammable gas, liquified, under pressure. Do not drop container. Keep away from intense heat or open sunlight. Corrosive to most metals in the presence of moisture.

**DIRECTIONS FOR USE
GENERAL CLASSIFICATION**

It is a violation of federal law to use this product in a manner inconsistent with the labeling. Have available gas masks approved by the National Institute for Occupational Safety and Health. Handle and use only in accordance with practices recommended in the Chlorine Manual published by the Chlorine Institute, Inc., Virginia. Use only in well ventilated areas.

Only specifically designed dispensing equipment should be used in accordance with manufacturer's instructions and according to state regulatory agency recommendations for dosages or residual chlorine levels which should be maintained for each specific site of application. FOR USE AS A DISINFECTANT AND/OR ALGICIDE, by experienced personnel only, in municipal water supplies, sewage and waste management plants, and in commercial and industrial swimming pools; and as a slimicide in water cooling systems and in paper mills. The "Booklet – Additional Use Instructions" includes specific directions for use of this product for sanitizing non porous food contact surfaces; and for treating fruit and vegetables.

STORAGE AND DISPOSAL

[This product is sold in bulk only (railcars and tank trucks). Therefore no cylinder language is needed]

For Bulk Shipments (Rail cars and Tank trucks): Keep containers away from direct exposure to fire. All containers are to be kept in a secure location and must not be accessible to the general public. Empty containers should be properly identified with return tags and returned to the supplier according to prescribed instruction and practices recommended by the Chlorine Institute and per all applicable DOT, FRA and USCG regulations.

LEAK PROCEDURE: Make daily inspections for leaks. Stop a leak at once, since it will become worse with time. In case of a leak, evacuate everyone from the immediate area and isolate the area. For entry into the affected area to correct problem, wear personal protective equipment (including prescribed respirators) specified in the Hazards to Humans section of this labeling. Observe strict safety precautions. Work upwind, if possible. Allow any liquid chlorine to evaporate. Only correctly trained and Personal Protective Equipment (PPE)-equipped handlers are permitted to perform such cleanup. Do not permit entry into the leak area by any other person until the chlorine has completely dispersed.

CLEANING FORMULATIONS, BLEACHING, & NON-PESTICIDE CHEMICAL MANUFACTURING: This product may be used for cleaning formulations, bleaching and non-pesticide chemical manufacturing. Only specifically designed handling and dispensing equipment should be used in accordance with manufacturer's instructions and according to operating instructions or product formulations defined by the use facility.

NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OTHERWISE ARE MADE OR CONTAINED HEREIN, EXCEPT THAT PRODUCT CONFORMS TO OLIN'S SPECIFICATIONS THEREFORE, Olin's exclusive responsibility for any claims, including claims based on negligence, arising in connection with the purchase, use, storage or handling of the product will in no event exceed Olin's sales price for the product with respect to which damages are claimed. In no event will Olin be liable for any incidental or consequential damages arising in connection with the purchase, use, storage or handling of the product. Buyer accepts full responsibility for compliance with all applicable Federal, state and local laws and regulations.

(See booklet for directions on sanitizing hard non porous food contact surfaces and fruit and vegetable washing.)

[Railcars/Tank Trucks/Bulk: The booklet is provided to the customer separately and is not required to accompany the shipment].

[The following may be used on labeling to assist in tracking production label dates:] [ESL and/or ENL [insert date[s]]]



CHLORINE Liquified Gas Under Pressure

Booklet -- Additional Use Instructions

See Label for additional information

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NON AGRICULTURAL USES

SANITIZING HARD NON POROUS FOOD CONTACT SURFACES

Sanitizers used in automated systems may be used for general cleaning but may not be re-used for sanitizing purposes.

RINSE METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution. Check the concentration of available chlorine using a chlorine test kit.

Clean equipment surfaces in the normal manner. Remove all soils and food particles by flushing, scraping and/or pre-soaking. Wash thoroughly with a good detergent followed by a potable water rinse. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to re-establish a 100 ppm residual. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used as the sanitizing solution. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution. Check the concentration of available chlorine using a chlorine test kit.

Clean equipment surfaces in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to re-establish a 100 ppm residual. Do not rinse equipment with water after treatment.

FRUIT & VEGETABLE WASHING - All fruits and vegetables should be cleaned by thoroughly washing in an appropriate cleaning solution. Remove all soils and other residues prior to treating with this product. After washing, transfer the fruit and vegetables to a separate tank containing the solution. Apply this product at the recommended concentration of available chlorine. See the following table for recommended usage concentrations for the fruit or vegetable being processed. The use of a calcium carbonate buffer to control pH is recommended. Maintain the pH of the use solution between 6.0 and 8.0 with a dilute solution of hydrochloric acid.

For citrus quarantine, use at 200 ppm at pH 6.0 to 7.5. Apply for two minutes using a suitable spray or dip tank treatment.



CHLOR ALKALI
PRODUCTS

[Manufactured for] OLIN CHLOR ALKALI PRODUCTS,
490 Stuart Road N.E., Cleveland, TN 37312

EPA Reg. No.: 72315-1

DOSAGE IN FRUIT AND VEGETABLE TREATMENT

Available Chlorine Required in Treatment Water

Maintain the following temperatures: Tank/Flume: 60 - 70°F Spray: 65 - 75°F Hydrocooler: 34 - 40°F

Do not rinse treated commodities with water prior to packaging.

COMMODITY	TREATMENT METHOD	AVAILABLE CHLORINE TO APPLY (ppm)	COMMENTS
Apples	Dump Tank	100 – 150	For dump tank and flume, submerge the apples for 90 seconds.
	Flume	30 – 50	
	Spray	100 – 150	For spray, maintain contact for 5 – 15-seconds.
Artichokes	Spray	100 –150	Spray for 5 – 15 seconds.
Asparagus	Spray	100 – 150	Spray for 5 – 15 seconds.
	Hydrocooler	125 – 150	Hydrocool for 20 - 30 minutes.
Bell Peppers	Dump Tank	100 – 135	Immerse in dump tank for 2 – 5 minutes.
	Spray	300 - 400	Spray for 5 – 15 seconds.
Brussels Sprouts	Spray	100 – 150	Spray for 5 – 15 seconds.
Cabbage (Chopped)	Spray	80 – 100	Spray for 5 – 15 seconds. After treatment, the adhering moisture must be removed by centrifuging.
Carrots	Dump Tank	100 – 200	Immerse in dump tank or flume for 1 - 5 minutes.
	Flume	100 – 200	
	Spray	50 – 100	Spray for 5 – 15 seconds.
Cauliflower	Spray	300 – 400	Spray for 5 – 15 seconds.
Celery	Spray	100	Spray for 5 – 15 seconds.
Cherries	Spray	75 – 100	Spray for 5 – 15 seconds.
Garlic	Spray	75 – 100	Spray for 5 – 15 seconds.
	Tank	75 – 150	Immerse in tank for 2 - 5 minutes contact.
Grapefruits	Spray	40 – 75	Spray for 5 – 15 seconds.
	Drench	100 – 150	Drench for 3 - 5 minutes. For citrus quarantine treatment, use 200 ppm of available chlorine at pH 6.0 - 7.5 in drench tank.
Lemons	Dump Tank	30 – 50	Immerse in dump tank for 2 - 3 minutes.
Lettuce (butter)	Spray	10 – 20	Spray for 5 – 15 seconds.
Lettuce (chopped)	Spray	80 - 100	Spray for 5 – 15 seconds. After treatment, the adhering moisture must be removed by centrifuging.
Lettuce (romaine)	Spray	20 - 40	Spray for 5 – 15 seconds.

Mushrooms	Spray	100 –200	Spray for 5 – 15 seconds. After treatment with the chlorinated water, mushrooms must be treated with anti-oxidant to prevent browning.
Onion (dry)	Spray Tank	75 –150 75 –150	Spray for 5 – 15 seconds. Immerse in tank for 2 - 3 minutes.
Onions (green)	Spray	75 – 120	Spray for 5 – 15 seconds.
Oranges	Drench Spray	100 – 200 40 – 75	Drench for 3 - 5 minutes. Spray for 5 – 15 seconds.
Nectarines	Hydrocooler Spray	30 – 75 50 – 100	Hydrocool for 20 - 30 minutes. Spray for 5 – 15 seconds.
Peaches	Hydrocooler Spray	30 – 75 50 – 100	Hydrocool for 20 - 30 minutes. Spray for 5 – 15 seconds.
Pears	Dump Tank	200 – 300	Immerse in tank for 2 - 3 minutes
Peppers (Not for use in CA)	Spray	300 – 400	Spray for 5 – 15 seconds.
Pineapples (Not for use in CA)	Spray Drench Dump Tank	100 -150 40 -100 30 - 100	Spray for 5 – 15 seconds. Drench for 3 -5 minutes. Remove from tank after 2-5 minutes. Potable water rinse is not required for pineapple.
Plums	Hydrocooler Spray	30 – 75 50 – 100	Hydrocool for 20 - 30 minutes. Spray for 5 – 15 seconds.
Potatoes	Dump Tank Flume Spray	30 – 100 200 – 300 100 - 200	Immerse in tank or flume for 2 - 5 minutes Spray for 5 – 30 seconds.
Potatoes (white)	Spray	500 – 600	This concentration of chlorine should be used only if bleaching of potatoes is desirable. Spray for 5 – 20 seconds.
Radishes	Tank Spray	10 – 25 100 – 150	Immerse in tank for 1 – 12 seconds Spray for 5 – 15 seconds.
Spinach (Not for use in CA)	Spray	75 – 150	Spray for 5 – 15 seconds.
Tomatoes	Tank Spray	200 – 350 100 – 150	Immerse in tank for 2 - 3 minutes. Spray for 5 – 15 seconds.
Yams	Tank	100 – 200	Immerse in tank for 2 - 3 minutes.

VALVE TAG

lin CHLORINE

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91973-TX-001	Producing establishment is marked.			91973-LA-001

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(Note: See booklet for directions on sanitizing hard non porous food contact surfaces and fruit and vegetable washing. Railcars/Tank Trucks/Bulk: The booklet is provided to the customer separately and is not required to accompany the shipment).

ENL 101615