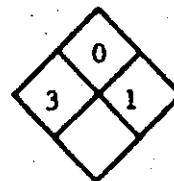




CLEAN-ALL POOL CENTER

838 Erie Blvd. West
SYRACUSE, NY 13204
(315) 472-0100

RECEIVED
1.3.1988
DEPT. OF EDUCATION
SYRACUSE, NEW YORK



ADAPTED FROM USDL
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MATERIAL SAFETY DATA SHEET

000090 HFA Designation

CHEMICAL NAME: Chlorine Bleach 5 1/2%	PLANT CODE	MATERIAL CODE NO.
MANUFACTURER'S NAME: CLEAN-ALL INC.	EMERGENCY TELEPHONE NO.	
ADDRESS: (NUMBER, STREET, CITY, STATE AND ZIP CODE)		

CHEMICAL NAME AND SYNONYMS Chlorine	TRADE NAME Chlorine
CHEMICAL FORMULA Cl₂	MOL. WT. 70.91
USES Water treatment; chemical syntheses	

Physical Properties

BOILING POINT (°F)	-29.30	SPECIFIC GRAVITY (H ₂ O = 1)	liquid @ 0°C 53.2 psia	1.47
VAPOR PRESSURE (mmHg) @ 68°F	4800	PERCENT VOLATILE BY VOLUME (%)		100%
VAPOR DENSITY (AIR = 1)	2.49	EVAPORATION RATE		
SOLUBILITY IN WATER @ 32°F	1.46%			
APPEARANCE AND ODOR	Greenish-yellow liquid or gas with penetrating odor			

Fire and Explosion Hazard Data

FLASH POINT	METHOD	FLAMMABLE LIMITS		AUTOIGNITION TEMP.
none	°F	UEL	LEL	none

EXTINGUISHING MEDIA Use agent suitable for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES Cool affected containers with large amounts of water.

UNUSUAL FIRE AND EXPLOSION HAZARDS At elevated temperatures will react with almost all elements, most metals and many organic and inorganic compounds, usually with the evolution of heat.

Reactivity

INCOMPATIBILITY At normal temperatures, reacts vigorously with reducing agents; at elevated temperatures, reacts with almost all substances.

HAZARDOUS DECOMPOSITION PRODUCTS - -

CONDITIONS TO AVOID Heat, moisture (hydrolysis forms corrosive HCl which can attack metals liberating hydrogen which in turn can combine explosively with chlorine).

[REDACTED]

Health Related Data

THRESHOLD LIMIT VALUE 1 ppm; 3 milligrams per cubic meter of air.

EFFECTS OF OVEREXPOSURE (SKIN, EYE, INHALATION, ETC.) Liquid chlorine causes "burns" of skin eyes and mucous membranes. Gaseous chlorine irritates eyes, skin and mucous membranes, especially of the respiratory tract, causing throat irritation, coughing, retching, vomiting and may result in pulmonary edema and death, depending upon degree of exposure and promptness of medical treatment.

EMERGENCY AND FIRST AID PROCEDURES EYES: Flush with copious amounts of water. SKIN: Flush with water; remove contaminated clothing and cleanse affected areas with soap and warm water. INGESTION: Dilute by drinking lime water, milk of magnesia or plain water. INHALATION: Remove to fresh air, administer oxygen.

SPECIAL MEDICAL PROCEDURES Treat for inhalation exposure first, administering oxygen by trained personnel. Do not use sodium bicarbonate internally or chemical neutralization externally. Spontaneous vomiting may occur but do not use emetics or try to induce vomiting. Get immediate medical assistance for all exposures. Administer

Special Protection Information stimulants only upon medical direction.

VENTILATION Normal - convection or general exhaust; Emergency - suction at floor level with exhaust to less hazardous area or to scrubber system.

RESPIRATORY (TYPE) Canister (Acid-gas) type for low concentrations; self-contained breathing apparatus for emergencies

GLOVES (TYPE) Rubber

EYE (TYPE) Chemical safety goggles; full-face masks for emergencies.

OTHER _____

SPECIAL PRECAUTIONS FOR HANDLING AND STORAGE Store in dry, ventilated, fire-resistant storage areas separate from other chemicals. Protect from heat and direct sunlight.

STEPS TO TAKE IN EVENT OF SPILL OR RELEASE Keep upwind from leak; get personnel protective equipment. Shut off supply at source; or, if possible, rig up to bleed container into absorbing alkaline solution. In event of uncontrollable release, evacuate area.

WASTE DISPOSAL Absorb in alkaline solution (caustic soda, soda ash or hydrated lime); control pH of ultimate discharge to sewer or stream.

REMARKS _____

REFERENCES MCA - Chemical Safety Data Sheet SD-80; Chlorine; Patty, F A - Ind Hyg and Toxicology, Vol II, 2nd Edition (1962); Sax, N I - Dangerous Properties of Industrial Materials, 3rd Edition (1968).

The information presented herein, while not guaranteed, was prepared by technically knowledgeable personnel and to the best of our knowledge is true and accurate. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other or additional considerations.

NAME G W Darling

LOC. Niagara - ICD

DATE December 1971