CHLOR PARS COMPANY Chlor - Alkali Chemicals

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

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REVISION DATE: 03-02-2016
MSDS Code: CP/MSDS/P/1

MANUFACTURER: **Chlor Pars Company (Chlor-Alkali Plant)**

CHEMICAL FAMILY: Hypochlorite
DESCRIPTION: Sanitizer and oxidizer
OSHA HAZARD CLASSIFICATION: Oxidizer, toxic by inhalation, corrosive, skin and eye hazard, lung toxin

SECTION 2 : COMPONENT DATA

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PRODUCT COMPOSITION

CHEMICAL NAME	CAS NUMBER	PERCENTAGE RANGE(%w/w)	HAZARDOUS PER 29 CFR 1910.1200	EXPOSURE STANDARDS
Calcium hypochlorite	7778-54-3	65-70%	Yes	3 mg/cubic meter (ceiling) as Chlorine
Sodium chloride	7647-14-5	15-20%	No	None Established
Calcium chlorate	10137-74-3	0-5%	Yes	None Established
Calcium chloride	10043-52-4	0-5%	Yes	None Established
Calcium hydroxide	1305-62-0	0-4%	Yes	ACGIH(TLV) ppm(mg/cubic-meter):5
Calcium carbonate	471-34-1	0-5%	Yes	ACGIH(TLV) ppm(mg/cubic-meter):10
Water	7732-18-5	5.5-10%	No	None Established

(Product Meeting DIN EN 900 Standard)

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SECTION 3 : PRECAUTIONS FOR SAFE HANDLING AND STORAGE

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DO NOT TAKE INTERNALLY. AVOID INHALATION OF DUST AND FUMES. AVOI CONTACT WITH EYES, SKIN OR CLOTHING. UPON CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE.

STORAGE CONDITIONS: Keep product tightly sealed in original containers. Store product in a cool, dry, well-ventilated area. Store away from combustible or flammable products. Keep product packaging clean and free of all contamination, including, e.g., other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials,
etc.

DO NOT STORE AT TEMPERATURES ABOVE: 52 Deg.C (125 Deg.F)
Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

PRODUCT STABILITY AND COMPATIBILITY

SHELF LIFE LIMITATIONS: Shelf life (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Do not store product at temperatures above 52^0C (125^0F). When stored under moderate temperature conditions, product will maintain stated label strength for approximately one years. Prolonged storage at 35^0C (95^0F) or above will significantly shorten the shelf life. Storage in a climate-controlled storage area or building is recommended in those areas where extremes of high temperature occur.

INCOMPATIBLE MATERIALS FOR PACKAGING: Product packaging must be clean and free of contamination by other materials, including, e.g., other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: Do not allow product to come in contact with other materials, including, e.g., other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.

SECTION 4 : PHYSICAL DATA

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APPEARANCE: White, free flowing powder
FREEZING POINT: Not Applicable
BOILING POINT: Not Applicable
DECOMPOSITION TEMPERATURE: Onset - Approximately 170-1800C (338-3560F)
SPECIFIC GRAVITY: Not Applicable
BULK DENSITY: 0.8 g/cc, loose
PH in 250C: 10.4-10.8 (1% solution)
VAPOR PRESSURE in 250C: Not Applicable
SOLUBILITY IN WATER: Approximately 18% in 250C (Product also contains calcium hydroxide and calcium carbonate which will leave a residue.)
VOLATILES, PERCENT BY VOLUME: Not Applicable
EVAPORATION RATE: Not Applicable
VAPOR DENSITY: Not Applicable
ODOR: Chlorine-like

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SECTION 5 : PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

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PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:
RESPIRATORY PROTECTION: Wear NIOSH approved respirator if dusts are created.
VENTILATION: Use local exhaust ventilation to minimize dust and chlorinelevels where industrial use occurs. Otherwise, ensure good general ventilation.
SKIN AND EYE PROTECTIVE EQUIPMENT: Wear gloves, and safety glasses to avoid skin and eye contact. Where industrial use occurs, chemical goggles or full impermeable suit may be required.

EQUIPMENT SPECIFICATIONS (WHEN APPLICABLE):
RESPIRATOR TYPE: NIOSH approved full face-piece respirator with chlorine cartridges and dust/mist prefilter .
PROTECTIVE CLOTHING TYPE: Neoprene (This includes: gloves, boots, apron, protective suit)

SECTION 6 : FIRE AND EXPLOSION HAZARD INFORMATION

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This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire. This product is a strong oxidizer which is capable of intensifying a fire once started.

FLAMMABILITY DATA:
FLAMMABLE: No
COMBUSTIBLE: No
PYROPHORIC: No
FLASH POINT: Not Applicable
AUTOIGNITION TEMPERATURE: Not Applicable
FLAMMABLE LIMITS AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE (PERCENT VOLUME IN AIR): UEL - Not Applicable LEL - Not Applicable

NFPA RATINGS:
Health: 3
Flammability: 0
Reactivity: 1
Special Hazard Warning: OX (OXIDIZER)

HMIS RATINGS:
Health: 3
Flammability: 0
Reactivity: 1

EXTINGUISHING MEDIA:
Water only

FIRE FIGHTING TECHNIQUES AND COMMENTS:
Use water to cool containers exposed to fire. Also see Section 11.

OTHER: Do not use dry extinguishers containing ammonium compounds

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SECTION 7 : REACTIVITY INFORMATION

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CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:TEMPERATURES ABOVE: 170^{0}C (338^{0}F)
MECHANICAL SHOCK OR IMPACT: No
ELECTRICAL (STATIC) DISCHARGE: No
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBLE MATERIALS: This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive, flammable or combustible materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Chlorine gas
OTHER CONDITIONS TO AVOID: Storage at temperatures >125 Deg.F (52 Deg.C)
Prevent ingress of humidity and moisture into container or package. Always close the lid.

SUMMARY OF REACTIVITY: (See also Section 6)
OXIDIZER: Yes
PYROPHORIC: No
ORGANIC PEROXIDE: No
WATER REACTIVE: No

SECTION 8 : FIRST AID

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EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. Call a physician. If clothing comes in contact with the product, it should be removed immediately and laundered before reuse.

INGESTION: Immediately drink large quantities of water. DO NOT induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

INHALATION: Remove victim to fresh air. Support respiration if needed. Call a physician.

SECTION 9 : TOXICOLOGY AND HEALTH INFORMATION

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HUMAN RESPONSE DATA
ODOR THRESHOLD: Approximately 1.4 mg/cubic-meter, based on odor threshold of chlorine.
IRRITATION THRESHOLD: Approximately 13-22 mg/cubic meter, based on the irritation threshold of chlorine.
IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: Approximately 45 mg/cubic-meter, based on IDLH concentration of chlorine.

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE

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INHALATION

ACUTE:

Inhalation of dust or vapor from this product can be irritating to the nose, mouth, throat and lungs. In confined areas, mechanical agitation can result in high levels of dust, and reaction with incompatible materials (as listed in Section VII) can result in high concentrations of chlorine vapor, either of which may result in burns to the respiratory tract, producing lung edema, shortness of breath, wheezing, choking, chest pains, impairment of lung function and possible permanent lung damage.

CHRONIC:

Chronic (repeated) inhalation exposure may cause impairment of lung function and permanent lung damage.

EYE

Severe irritation and/or burns can occur following eye exposure.

Contact may cause impairment of vision and corneal damage.

SKIN

ACUTE:

Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation. Prolonged skin exposure may cause permanent damage.

CHRONIC:

Effects from chronic skin exposure would be similar to those from single exposure except for effects secondary to tissue destruction.

INGESTION

ACUTE:

Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration. Due to the corrosive nature of this product, ingestion may be fatal.

CHRONIC:

There are no known or reported effects from chronic exposure except for effects similar to those experienced from single exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Asthma, respiratory and cardiovascular disease

INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY

None known or reported

ANIMAL TOXICOLOGY

ACUTE TOXICITY:

Inhalation LC 50: Approximately 1300 mg/cubic-meter (1 hr., rat) , based on acute inhalation toxicity for chlorine

Oral LD 50: 850 mg/kg. (rat)

Dermal LD 50: > 2 g/kg. (rabbit)

Causes burns to eyes and skin

CHRONIC TOXICITY:

There are no known or reported effects from repeated exposure.

REPRODUCTIVE TOXICITY:

Calcium hypochlorite has been tested for teratogenicity in laboratory animals. Results of this study have shown that calcium hypochlorite is not a teratogen.

CARCINOGENICITY:

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This product is not known or reported to be carcinogenic by anyreference source, including: IARC, OSHA, NTP or EPA.

One hundred mice were exposed dermally 3 times a week for 18 months to a solution of calcium hypochlorite. Histopathological examination failed to show an increased incidence of tumors.

AQUATIC TOXICITY:
Bluegill, 96 hr. LC50: 0.088 mg/l (nominal, static)
Rainbow trout, 96 hr. LC50: 0.16 mg/l (nominal, static)
Daphnia magna, 48 hr. LC50: 0.11 mg/l (nominal, static)

TOXICITY TO WILDLIFE:
Bobwhite quail, dietary LC50: > 5,000 ppm
Mallard ducklings, dietary LC50: > 5,000 ppm
Bobwhite quail, oral LD50: 3474 mg/kg.

SECTION 10 : TRANSPORTATION INFORMATION

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THIS MATERIAL IS REGULATED AS A DOT HAZARDOUS MATERIAL.

DOT DESCRIPTION FROM THE HAZARDOUS MATERIALS TABLE 49 CFR 172.101:
LAND (U.S. DOT): CALCIUM HYPOCHLORITE, HYDRATED MIXTURES, 5.1,
UN 2880, PG II

HAZARD LABEL/PLACARD: OXIDIZER
REPORTABLE QUANTITY: 10 lbs. (Per 49 CFR 172.101, Appendix)
EMERGENCY GUIDE NO: 140

SECTION 11 : SPILL AND LEAKAGE PROCEDURES

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SPILL MITIGATION PROCEDURES:
Hazardous concentrations in air may be found in local spill area and immediately downwind. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel.

AIR RELEASE: Vapors may be suppressed by the use of a water fog. All water utilized to assist in fume suppression,
decontamination or fire suppression may be contaminated and must be contained before disposal and/or treatment.

WATER RELEASE: This material is heavier than water. This material is soluble in water. Monitor all exit water for available chlorine and PH. Advise local authorities of any contaminated water release.

DANGER: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical

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reaction which may spontaneously ignite any combustiblematerial present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom orshovel, place all spilled product into plastic bags, and place those bags into a clean, dry disposal container, properly marked and labelled. Disposal containers made of plastic or metal are recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place alldamaged packaging material in a disposal container of water to assure decontamination (i.e. removal of all product) before disposal. Place all undamaged packaging in a clean,
dry container properly marked and labelled. Call for disposal procedures.

SPILL RESIDUES:
Dispose of per guidelines under Section 12, WASTE DISPOSAL.

PERSONAL PROTECTION FOR EMERGENCY SPILL AND FIRE-FIGHTING SITUATIONS:
Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment.

SECTION 12 : Spill , Leak & Waste Disposal

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Spill/Leak: Notify safety personnel of spills. Remove combustibles and ignition sources. Those involved in cleanup need protection against contact with the solid and dust inhalation. Prevent dust generation and prevent direct discharge into sewers or waterways since this material, in low concentrations, is toxic to aquatic life. Recover uncontaminated solid material in clean, dry containers. Cover other spilled material with weak reducing agents (3M H2SO4 with bisulfites or ferrous salts), slurry it with water, and then flush it with water to a suitable holding tank. Wash spill site well with soap solution containing a weak reducing agent.
Disposal: Use reducing agents to destroy available chlorine. Adjust this reduced liquid's pH to neutral and decant. Discharge neutral liquid, diluting with much water. Dispose of neutral sludge (if any) in a landfill.

Swimming Pool Disinfection Guide

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For a new pool or spring start-up. superchlorinate with 10 to 20 oz of product for each 10,000 gallons of water to yield 5 to 10 PPM available chlorine by weight. Check the level of available chlorine with a test kit. Adjust and maintain pool water pH to between 7.2 to 7.6. Adjust and maintain the alkalinity of the pool to between 50 to 100 PPM.
To maintain the pool, add manually or by a feeder device,2 oz, of this product for each 10,000 gallons of water to yield an available chlorine residual between 06 to 10 PPM by weight. In stabilized pools maintain a residual of 1.0 to 15 PPM available chlorine. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kits Frequency of water treatment will depend upon temperature and number of swimmers.
Every 7 days, or as necessary, superchlorinate the pool with 10 to 20 oz. of product for
each 10.000 gallons of water to yield 5 to 10 PPM available chlorine by weight. Check the level of available chlorine with a test kit. Do riot reenter pool until the chlorine residual is between 10 to 30 PPM.
At the end of the swimming pool season or when water is to be drained from [he pool. chlorine must be allowed to dissipate from treated pool water before discharge Do not chlorinate the pool within 24 hours prior to discharge.

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