



## Material Safety Data

---



---

**SECTION 1                      CHEMICAL PRODUCT AND COMPANY IDENTIFICATION                      1 of 6**

---

PRODUCT NAME: AQUAMATE GRANULAR CHLORINE; MAINTAIN GRANULAR CHLORINE

PRODUCT ID: 4500

SYNONYMS: CALCIUM HYPOCHLORITE, CAL HYPO GRANULES, Ca(OCl)<sub>2</sub>

DATE: 01-23-2003

EDITION: 4

BALECO INTERNATIONAL INC

EMERGENCY PHONE NUMBERS

3200 STATELINE RD

1-800-248-3000

NORTH BEND, OHIO 45052

24 HOUR PHONE: CHEMTREC: 1-800-424-9300

PREPARER: TODD HAMMERSMITH

PPG 24HOUR PHONE: 1-304-843-1300

---



---

**SECTION 2                      COMPOSITION/INFORMATION ON INGREDIENTS**

---

MATERIAL/CAS NUMBER	PERCENT
CALCIUM HYPOCHLORITE	
7778-54-3	>65

NOTE: 65 % AVAILABLE CHLORINE. 35% INERT INGREDIENTS (INCLUDES 5.5-10% MOISTURE)

---



---

**SECTION 3                      HAZARDOUS IDENTIFICATION**

---

**EMERGENCY OVERVIEW:**

**DANGER!!** Strong oxidizing agent. Mix only with water. Contamination may cause fire or explosion. Do not add this product to any dispensing device containing remnants of any other product.

**PRECAUTIONS:** Do not swallow. Swallowing may cause severe injury or death. Do not get in eyes, on skin, or on clothing. May cause chemical burns. Avoid breathing dust. Irritating to nose and throat. Wash hands after handling.

Keep out of reach of children.

---

**SECTION 4 FIRST AID MEASURES**

---

**INHALATION:** Move person to fresh air. If not breathing, give artificial respiration. Preferably mouth-to-mouth. If breathing difficult, give oxygen. Call a physician.

**EYE/SKIN CONTACT:** In case of contact, immediately flush eyes and skin with plenty of water. (Soap and water for skin) for at least 15 minutes, while removing contaminated clothing and shoes. For eye contact, get immediate medical attention. If skin irritation occurs, get medical attention.

**INGESTION:** If swallowed, give at least 3-4 glasses of water, but do not induce vomiting. Do not give anything by mouth to an unconscious or convulsing person. Get medical attention.

**NOTES TO PHYSICIAN:** Treat symptomatically.

---

**SECTION 5 FIRE FIGHTING MEASURES**

---

**FLASH POINT:** None.

**EXTINGUISHING MEDIA:** Water only. Smothering ineffective—product supplies own oxygen.

**SPECIAL FIRE FIGHTING PROCEDURES:** Product decomposes at 180°C releasing oxygen gas. Container may rupture. Fire fighters must wear NIOSH approved, pressure demand, self-contained breathing apparatus with full-face piece for possible exposure to hazardous gases.

---

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

---

**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** Use extreme caution in handling spilled material. Contamination with organic or combustible material may cause fire or violent decomposition. If fire or decomposition occurs in area of spill, immediately douse with plenty of water, otherwise, sweep up all visible material using a clean, dry shovel and broom and dissolve material in water. Spilled material that has been swept up and dissolved in water should be immediately in the normal application for which this product is being consumed.

---

**SECTION 7 SAFE HANDLING AND STORAGE**

---

**DO NOT STORE AT TEMPERATURES ABOVE:** 52 Deg. C (125 Deg. F)

**PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:** Store in a cool, dry, well-ventilated area. Keep in original container. Keep container closed when not in use. Keep away from heat, sparks, flames, direct sunlight, and other sources of heat, including lighted tobacco products. Use only a clean, dry scoop made of metal or plastic each time product is taken from the container. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause violent reaction leading to fire or explosion.

Add this product only to water. May cause fire or explosion if mixed with other chemicals. Fire may result if contaminated with acids or easily combustible materials such as oil, kerosene, gasoline, paint products and most organic materials. Do not reuse container. Residual material remaining in the empty container can react to cause fire. Thoroughly flush empty container with water then destroy by placing in trash collection. Do not contaminate water, food, or feed by storage or disposal.

---

## SECTION 8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

---

**EXPOSURE LIMITS:** 8-hour time weighted average (TWA) ; 15-minute short-term exposure limit (STEL).

**OSHA:** No occupational limits have been established by OSHA.

**ACGIH:** No occupational limits have been established by ACGIH.

**PPG (PEL):** 1MG/CU.M TWA 2 MG/CU.M. STEL

**VENTILATION:** None required unless dusty conditions are encountered.

**RESPIRATORY PROTECTION:** If dusty conditions are encountered, use NIOSH approved respirator with acid gas cartridge and dust prefilter. The respiratory use limitations made by the NIOSH or the manufacturer must be observed. Respiratory protection programs must be in accordance with 29 CFR 1910.134.

**PROTECTIVE GLOVES:** Natural or synthetic rubber.

**EYE AND FACE PROTECTION:** Chemical safety goggles.

**OTHER PROTECTIVE EQUIPMENT:** Boots, aprons, or chemical suits should be used when necessary to prevent skin contact. Personal protective clothing and use of equipment must be in accordance with 29 CFR 1910.132 (general requirements), 133 ( eye and face protection), and 138(hand protection).

---

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

---

<u>PROPERTY</u>	<u>VALUE</u>
<b>BOILING POINT:</b>	DECOMPOSES AT 180°C
<b>VAPOR DENSITY:</b>	N/A
<b>SPECIFIC GRAVITY (WATER=1) :</b>	N/A
<b>pH:</b>	ALKALINE
<b>FREEZING/MELTING POINT :</b>	N/A
<b>SOLUBILITY (WT.% IN WATER):</b>	Approximately 18% @ 25 Deg.C
<b>BULK DENSITY:</b>	65-67 LBS./CU.FT
<b>VOLUME % VOLATILE:</b>	N/A
<b>VAPOR PRESSURE:</b>	N/A
<b>EVAPORATION RATE:</b>	N/A
<b>HEAT OF SOLUTION:</b>	SLIGHTLY EXOTHERMIC
<b>PHYSICAL STATE:</b>	POWDER
<b>ODOR:</b>	SLIGHT CHLORINE
<b>COLOR:</b>	WHITE

---

**SECTION 10****STABILITY AND REACTIVITY**

---

**STABILITY:** Unstable above 177°C.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INCOMPATIBILITY (CONDITIONS/MATERIALS TO AVOID):** Contamination. Excessive heat above 177°C. Acids. Combustible Materials. Organics. Reducing agents. Store in dry area to avoid moisture contact.

**HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:** Acid or ammonia contamination will release toxic gases. Excessive heat will cause decomposition resulting in the release of oxygen and chlorine gas.

---

**SECTION 11****TOXICOLOGICAL INFORMATION**

---

**ACUTE INHALATION LC50:** (rat) no mortality at 3.5 mg/l (1 hour). irritating  
**ACUTE DERMAL LD50:** (rabbit) >1000 mg/kg. slight to very low toxicity.  
**SKIN IRRITATION:** severely irritating  
**EYE IRRITATION:** Corrosive.  
**ACUTE ORAL LD50:** (rat) 850mg/kg. slight to very low toxicity.

**CHRONIC EFFECTS/CARCINOGENICITY:** This product is not listed as a Carcinogen or suspected Carcinogen by NTP, IARC, or OSHA.

**MEDICAL CONDITIONS AGGRAVATED:** None known.

**EFFECTS OF OVEREXPOSURE:****ACUTE:**

**INHALATION:** Inhalation of Calcium Hypochlorite dust and deposition of particles in the respiratory tract can lead to irritation of the tissue and cause a variety of effects. These effects are dependent on concentration and include: Upper respiratory tract irritation, nasal congestion, coughing, sore throat, laryngitis and shortness of breath. In operations where there are high concentrations of respirable particulates, pulmonary edema (fluid in the lung) may be produced. If not treated immediately, pulmonary edema can be life threatening. Since this product is in \_\_\_\_\_ form, particles of respirable size are not generally encountered.

**EYE/SKIN:** Calcium Hypochlorite is corrosive to the eyes. Contact of Calcium Hypochlorite dust with the eyes, even a minute amount for a short duration, can cause severe irritation and even blindness. Contact with the skin may cause severe irritation, burns, or tissue destruction. In studies utilizing rabbits, the skin irritation score was 8/8 and the eye irritation score was 98.5/100.

**INGESTION:** Calcium Hypochlorite, IF SWALLOWED, causes severe burns to the digestive tract and can be fatal.

**CHRONIC:**

**GENOTOXICITY:** Calcium Hypochlorite produced positive responses in in-vitro assays using bacterial systems (the Ames test) and chromosomal aberrations in Chinese hamster fibroblasts. In a whole animal experiment (mouse micronucleus test), exposures ranging from 20 to 160 mg/kg produced no compound related chromosomal abnormalities.

**CARCINOGENESIS:** Although no study has been conducted with Calcium Hypochlorite, the carcinogenic potential of Sodium Hypochlorite was studied in f344 rats. After 104 weeks of drinking water containing up to 2000 ppm Sodium Hypochlorite, the

was no evidence that this chemical produced any carcinogenic response. In addition, this exposure did not result in any adverse effects in blood, clinical chemistry, or other target organs.

One of the major uses of Calcium Hypochlorite is as a source of chlorine for water sanitization in drinking and recreational water. Studies have been conducted to determine the long-term effects of chlorinated drinking water. Seven generations of rats were given 100-ppm chlorine in their drinking water. No difference in fertility, growth, blood parameters, or specific organ toxicity was observed between control and exposed animals. Two separate animal studies conducted by different government agencies determined that the chlorination of municipal drinking water did not result in toxicity to the developing mouse fetus.

Safe handling of this material on a long-term basis should emphasize minimizing repeated acute exposures.

---

**SECTION 12****ECOLOGICAL INFORMATION**

---

**ECOTOXICOLOGICAL INFORMATION:**

HIGHLY TOXIC TO AQUATIC LIFE. 10-1 PPM (FISH) 96-HOUR TLM LC50.

---

**SECTION 13****DISPOSAL CONSIDERATIONS**

---

**DISPOSAL METHOD:** Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being used. If this is not possible, carefully neutralize dissolved material by adding hydrogen peroxide (one pint of 35% hydrogen peroxide solution per pound of Calcium Hypochlorite to be neutralized) then dilute the neutralized material with plenty of water and flush to sewer. Note: only properly neutralized material should be flushed to sewer. Unneutralized material can cause environmental damage to receiving water or can interfere with treatment plant operation. For on-site neutralization, carefully and slowly pour the appropriate quantity of 35% hydrogen peroxide solution over all spilled material then flush area with plenty of water. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the clean air act, the clean water act, the resource conservation and recovery act, as well as any other relevant federal, state, or local laws/regulations regarding disposal.

**RCRA:** Waste Calcium Hypochlorite that is neutralized and contaminated soils/materials from spill cleanup and d001 hazardous waste as per 40 CFR 261.21 (a)(4) and must be disposed of accordingly under RCRA.

---

**SECTION 14****TRANSPORTATION INFORMATION**

---

**USA DOT DESCRIPTION:**

**PROPER SHIPPING NAME:** Calcium Hypochlorite, Hydrated

**HAZARD CLASS:** 5.1 (OXIDIZER)

**IDENTIFICATION NUMBER:** UN2880

**PACKING GROUP:** II

**REPORTABLE QUANTITY:** 10 LBS. / 4.5 KG.

---

**SECTION 15****REGULATORY INFORMATION**

---

**USA TSCA:** This product is listed on the TSCA inventory.  
**EUROPE EINECS:** This product is listed on EINECS.  
**CANADA DSL:** This product is listed on the CANADIAN DSL.  
**AUSTRALIA AICS:** This product is listed on AICS.  
**KOREA ECL:** This product is listed on ECL.  
**JAPAN MITI (ENCS):** This product is listed on MITI.  
**SARA TITLE III: SARA (311, 312) HAZARD CLASS:** Acute Health Hazard. Reactive Hazard. Fire Hazard.  
**SARA (313) CHEMICALS:** Not listed.  
**SARA SECTION 302:** Not listed as an extremely hazardous substance.  
**CERCLA HAZARDOUS SUBSTANCE:** Listed in table 302.4 of 40 CFR part 302 as a hazardous substance with a reportable quantity of 10 pounds releases to air, land or water, which exceed the RQs, must be reported to the national response center, 800-424-8802.

**FIFRA:** This product is registered with EPA as a pesticide.

---

**SECTION 16****OTHER INFORMATION**

---

**OTHER INFORMATION:** NSF drinking water treatment chemicals listing -Baleco Calcium Hypochlorite is certified for maximum use at 46 mg/l under ANSI/NSF standard 60.

The following has been revised since the last issue of this MSDS: Date, Edition. MSDS has been reformatted into 16 sections.

PREVIOUS REVISION DATE: 01-23-2003  
PREVIOUS EDITION NUMBER: 03

NA = NOT AVAILABLE

**Baleco Disclaimer:** Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Baleco International Inc. makes no representation as to the completeness or accuracy thereof.

Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use.

In no event will Baleco Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information.

No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or of any other nature, are made hereunder with respect to information or the product to which the information refers.

Prepared by: MSDS Department Baleco International Inc  
P.O. Box 11331  
Cinti, OH 45211  
Phone number: (513) 353-3000