

***** PITTCLOR (R)****ALL CLEAR CHLOR-RIGHT GRANULATED**

EPA REG # 748-239-09215

ALL CLEAR SHOCK CLEAR

EPA REG # 748-237-09215

MSDS NUMBER: 0045
 DATE: 03/10/89
 EDITION: 011
 TRADE NAME: PITTCLOR (R)
 CHEMICAL NAME/SYNONYMS: CALCIUM HYPOCHLORITE GRANULAR, CAL HYPO
 CHEMICAL FAMILY: HYPOCHLORITE
 FORMULA: CA(OCL)2
 U.S. DOT SHIPPING NAME: CALCIUM HYPOCHLORITE, HYDRATED
 U.S. DOT HAZARD CLASS: OXIDIZER
 SUBSIDIARY RISK: N/A
 I.D. NUMBER: UN2880
 REPORTABLE QUANTITY: 10 LBS/4.5 KG

ALL CLEAR SHOCK CLEAR

EPA REG # 41760-20005-09215

CAS NUMBER: 007778 54 3

SECTION 1 * PHYSICAL DATA

BOILING POINT @ 760 MM HG: DECOMPOSES @ 180 C
 VAPOR DENSITY (AIR = 1): N/A
 SPECIFIC GRAVITY (H₂O = 1): N/A
 pH OF SOLUTIONS: ALKALINE
 FREEZING/MELTING POINT: N/A
 SOLUBILITY (WEIGHT % IN WATER): 217 G/L @ 27 C
 BULK DENSITY: 65-67 LBS/CU. FT.
 VOLUME % VOLATILE: N/A
 VAPOR PRESSURE: N/A
 EVAPORATION RATE: N/A
 HEAT OF SOLUTION: SLIGHTLY EXOTHERMIC
 APPEARANCE AND ODOR:
 WHITE POWDER WITH SLIGHT CHLORINE ODOR

SECTION 2 * INGREDIENTS

MATERIAL	PERCENT
CALCIUM HYPOCHLORITE (65% AVAILABLE CHLORINE)	65
INERT (INCLUDES 5.5 - 10% MOISTURE)	35

SECTION 3 * FIRE/EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED):
 NONE

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FLAMMABLE LIMITS IN AIR (% BY VOLUME)

LEL: N/A

UEL: N/A

EXTINGUISHING MEDIA:

WATER ONLY! SMOTHERING INEFFECTIVE-PRODUCT SUPPLIES OWN OXYGEN

SPECIAL FIRE FIGHTING PROCEDURES:

FIRE FIGHTERS MUST WEAR NIOSH/MSHA APPROVED, PRESSURE DEMAND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE FOR POSSIBLE EXPOSURE TO HAZARDOUS GASES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DECOMPOSES AT 180 C RELEASING OXYGEN GAS; CONTAINERS MAY RUPTURE.

SECTION 4 * HEALTH HAZARD DATA

TOXICITY DATA:

LC50 INHALATION:	(RAT) NO MORTALITY @ 3.5 MG/L (1 HR)
LD50 DERMAL:	(RABBIT) >1000 MG/KG
SKIN/EYE IRRITATION:	SEE SECTION 5
LD50 INGESTION:	SEE SECTION 5
FISH, LC50 (LETHAL CONCENTRATION):	TLM 96 HR.: 10-1 PPM

CLASSIFICATION: (POISON, IRRITANT, ETC.)

INHALATION:	IRRITATING
SKIN:	SLIGHTLY TOXIC
SKIN/EYE:	CORROSIVE
INGESTION:	SLIGHTLY TOXIC
AQUATIC:	HIGHLY TOXIC

SECTION 5 * EFFECTS OF OVEREXPOSURE

THIS SECTION COVERS EFFECTS OF OVEREXPOSURE FOR INHALATION EYE/SKIN CONTACT INGESTION AND OTHER TYPES OF OVEREXPOSURE INFORMATION IN THE ORDER OF THE MOST HAZARDOUS AND THE MOST LIKELY ROUTE OF OVEREXPOSURE.

IS CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?

NTP - NO IARC - NO OSHA - NO

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

NONE KNOWN

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PERMISSIBLE EXPOSURE LIMITS:

NONE ESTABLISHED BY OSHA OR ACGIH FOR THIS PRODUCT.
PPG INTERNAL PERMISSIBLE EXPOSURE LIMIT (IPEL): 2 MG/CU.M. STEL
(SHORT-TERM EXPOSURE LIMIT).

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 GRANULAR 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 98.5/110 AND THE EYE IRRITATION SCORE WAS 8/8. THE CLASSIFICATION FOR BOTH OF THESE IS CORROSIVE.

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, THERE 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

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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.

* EMERGENCY AND FIRST AID PROCEDURES

INHALATION:

REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.

EYE OR SKIN CONTACT:

FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. FOR EYE CONTACT, GET IMMEDIATE MEDICAL ATTENTION. IF SKIN STATION OCCURS, GET MEDICAL ATTENTION.

INGESTION:

IF CONSCIOUS, DRINK LARGE QUANTITIES OF WATER AND ANY COMMON COOKING (VEGETABLE) OIL, IF AVAILABLE. DO NOT INDUCE VOMITING. TAKE IMMEDIATELY TO A HOSPITAL OR PHYSICIAN. IF UNCONSCIOUS, OR IN CONVULSIONS TAKE IMMEDIATELY TO A HOSPITAL. DO NOT ATTEMPT TO INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTES TO PHYSICIAN (INCLUDING ANTIDOTES):

TREAT SYMPTOMATICALLY.

SECTION 6 * REACTIVITY DATA

STABILITY: UNSTABLE

CONDITIONS TO AVOID: CONTAMINATION OR EXCESSIVE HEAT ABOVE 177 C

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HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE-WILL NOT POLYMERIZE

INCOMPATIBILITY (MATERIALS TO AVOID):

ACIDS, COMBUSTIBLE MATERIALS, ORGANICS, REDUCING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS:

ACIDS OR AMMONIA CONTAMINATION WILL RELEASE TOXIC GASES. EXCESSIVE HEAT WILL CAUSE DECOMPOSITION RESULTING IN THE RELEASE OF OXYGEN AND CHLORINE GAS.

SECTION 7 * SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:

NOTE: 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. DISPOSE OF WASTE MATERIAL AS OUTLINED BELOW.

WASTE DISPOSAL METHOD:

SPILLED MATERIAL THAT HAS BEEN SWEEP UP AND DISSOLVED IN WATER SHOULD BE USED IMMEDIATELY IN THE NORMAL APPLICATION FOR WHICH CALCIUM HYPOCHLORITE IS BEING CONSUMED. 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.

COMMENTS: 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, FIFRA, AS WELL AS ANY OTHER RELEVANT FEDERAL, STATE, OR LOCAL LAWS/REGULATIONS REGARDING DISPOSAL.

SECTION 8 * SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

IF DUSTY CONDITIONS ARE ENCOUNTERED, USE NIOSH/MSHA APPROVED RESPIRATOR

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WITH ACID GAS CARTRIDGE AND DUST PREFILTER. THE RESPIRATOR USE LIMITATIONS SPECIFIED BY NIOSH/MSHA OR THE MANUFACTURER MUST BE OBSERVED RESPIRATORY PROTECTION PROGRAMS MUST BE IN ACCORDANCE WITH 29 CFR 1910.134.

VENTILATION(TYPE):

NONE, UNLESS DUSTY CONDITIONS ARE ENCOUNTERED.

EYE PROTECTION:

CHEMICAL SAFETY GOGGLES

GLOVES:

NATURAL OR SYNTHETIC RUBBER

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 AND 29 CFR 1910.133

SECTION 9 * SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING:

- * DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.
- * KEEP IN ORIGINAL CONTAINER IN A COOL, DRY PLACE.
- * KEEP CONTAINER CLOSED WHEN NOT IN USE.
- * KEEP AWAY FROM HEAT SOURCES, SPARKS, OPEN FLAMES AND LIGHTED TOBACCO PRODUCTS.
- * USE ONLY A CLEAN, DRY SCOOP MADE OF METAL OR PLASTIC EACH TIME THIS PRODUCT IS TAKEN FROM 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 MATERIAL SUCH AS OIL, KEROSENE, GASOLINE, PAINT PRODUCTS AND MOST OTHER ORGANIC MATERIALS.
- * WASH HANDS AFTER HANDLING.
- * DO NOT REUSE CONTAINER. RESIDUAL MATERIAL REMAINING IN EMPTY DRUM CAN REACT TO CAUSE FIRE. THOROUGHLY FLUSH EMPTY CONTAINER WITH WATER THEN DESTROY BY PLACING IN TRASH COLLECTION. WASTES RESULTING FROM THE USE OF THIS PRODUCT MAY BE DISPOSED OF ON SITE OR AT AN APPROVED WASTE DISPOSAL FACILITY. DO NOT CONTAMINATE WATER FOOD OR FEED BY STORAGE OR DISPOSAL.

OTHER PRECAUTIONS:

- * KEEP OUT OF REACH OF CHILDREN.
- * STRONG OXIDIZER - FIRE MAY RESULT FROM CONTACT WITH HEAT, ACIDS,

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ORGENIC OR COMBUSTIBLE MATTER.

- * MAY BE FATAL OR HARMFUL IF SWALLOWED.
- * MAY CAUSE CHEMICAL BURNS.
- * IRRITATING TO NOSE AND THROAT - AVOID BREATHING DUST.

COMMENTS:

TSCA - CALCIUM HYPOCHLORITE IS ON TSCA INVENTORY UNDER CAS # 7778-54-3.

SARA TITLE III - A) 311/312 CATEGORIES - ACUTE AND REACTIVITY, B) NOT LISTED IN SECTION 313, C) NOT LISTED AS AN "EXTREMELY HAZARDOUS SUBSTANCE" IN SECTION 302.

CERCLA - 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 RQ MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER, 800-424-8802.

FIFRA - CALCIUM HYPOCHLORITE IS REGISTERED WITH EPA AS A PESTICIDE.

R. KENNETH LEE
MANAGER, PRODUCT SAFETY

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