



chemists helping chemists in research & industry

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DATE: 07/27/93
CUST#: 938609
PO#: P0074850

M A T E R I A L S A F E T Y D A T A S H E E T

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IDENTIFICATION

PRODUCT #: 22486-3
CAS #: 3811-04-9
MF: CLK03

NAME: POTASSIUM CHLORATE, 98%

SYNONYMS

BERTHOLLET SALT * BERTHOLLET'S SALT * CHLORATE DE POTASSIUM (FRENCH) *
CHLORATE OF POTASH * CHLORATE OF POTASH (DOT) * FEKABIT *
KALIUMCHLORAT (DUTCH) * KALIUMCHLORAT (GERMAN) * OXYMURIATE OF
POTASH * PEARL ASH * POTASH CHLORATE (DOT) * POTASSIO (CHLORATO DI)
(ITALIAN) * POTASSIUM CHLORATE * POTASSIUM (CHLORATE DE) (FRENCH) *
POTASSIUM CHLORATE (DOT) * POTASSIUM OXYMURIATE * POTCRATE * SALT OF
TARTER * UN 1485 (DOT) *

TOXICITY HAZARDS

RTECS #: F00350000
CHLORIC ACID, POTASSIUM SALT

TOXICITY DATA

UNR-HMN LDLO: 429 MG/KG
ORL-RAT LD50: 1870 MG/KG

AEXPBL 21,169,1886
AIHAAP 30,470,69

REVIEWS, STANDARDS, AND REGULATIONS

NOHS 1974: HZD 80198; NIS 16; TNF 414; NOS 15; TNE 2679
NOES 1983: HZD 80198; NIS 9; TNF 368; NOS 13; TNE 8679; TFE 4996
EPA TSCA CHEMICAL INVENTORY, JUNE 1990

TARGET ORGAN DATA

BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORAL (COMA)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

HEALTH HAZARD DATA

ACUTE EFFECTS

HARMFUL IF INHALED OR SWALLOWED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
ABSORPTION INTO THE BODY LEADS TO THE FORMATION OF METHEMOGLOBIN
WHICH IN SUFFICIENT CONCENTRATION CAUSES CYANOSIS. ONSET MAY BE
DELAYED 2 TO 4 HOURS OR LONGER.

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A D D I T I O N A L P R E C A U T I O N S A N D C O M M E N T S

CHROMIUM, SULFUR DIOXIDE, SODIUM AMIDE, ZIRCONIUM, GERMANIUM, TITANIUM EXPLODE ON HEATING. CONTACT OF POTASSIUM CHLORATE WITH SULFURIC ACID IS EXPLOSIVE WITH OPTIMUM TEMPERATURE RANGE BEING 120-130 C. FORMS INCOMPATIBLE SOMETIMES EXPLOSIVE MIXTURES WITH THORIUM DICARBIDE, TANNIC ACID, WOOD, GLUCOSE, CALCIUM HYDRIDE, STRONTIUM HYDRIDE, HYDROGEN IODIDE, FLUORINE, CYANOGLUANIDINE, CYANIDES, DINICKEL TRIOXIDE, POWDERED CARBON, AMMONIUM CHLORIDE, AMMONIUM SULFATE, AMMONIA, AQUA REGIA AND RUTHENIUM, ORGANIC MATERIAL AND NITRIC ACID, MANGANESE DIOXIDE AND POTASSIUM HYDROXIDE OR BORON. DECOMPOSITION PRODUCTS INCLUDE CHLORINE AND CHLORINE DIOXIDE.

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ALDRICH SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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HEALTH HAZARD DATA

CHRONIC EFFECTS

ANEMIA
TARGET ORGAN(S):
BLOOD
LIVER
KIDNEYS

FIRST AID

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

ADDITIONAL INFORMATION

SYMPTOMS OF OVEREXPOSURE TO POTASSIUM CHLORATE INCLUDE NAUSEA, VOMITING, ABDOMINAL PAIN, DIARRHEA, ANEMIA(HEMOLYTIC) AND HEMORRHAGE. METHEMOGLOBIN FORMATION RESULTS FROM CATALYTIC OXIDATION OF THE BLOOD. ANURIA, DAMAGE TO THE LIVER, CONVULSIONS DUE TO CENTRAL NERVOUS SYSTEM EFFECTS AND COMA MAY ALSO OCCUR.

PHYSICAL DATA

MELTING POINT: 356 C
SPECIFIC GRAVITY: 2.320

APPEARANCE AND ODOR

WHITE CRYSTALLINE POWDER

FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA
WATER SPRAY.

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F I R E A N D E X P L O S I O N H A Z A R D D A T A

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.
STRONG OXIDIZER.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
MAY EXPLODE WHEN HEATED.
CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

R E A C T I V I T Y D A T A

INCOMPATIBILITIES
STRONG REDUCING AGENTS
FINELY POWDERED METALS
STRONG ACIDS
ALCOHOLS
ORGANIC MATERIALS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
OXYGEN

S P I L L O R L E A K P R O C E D U R E S

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
COVER WITH DRY LIME OR SODA ASH, PICK UP, KEEP IN A CLOSED CONTAINER
AND HOLD FOR WASTE DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHOD
CAUTIOUSLY ACIDIFY A 3% SOLUTION OR A SUSPENSION OF THE MATERIAL TO
PH 2 WITH SULFURIC ACID. GRADUALLY ADD A 50% EXCESS OF AQUEOUS SODIUM
BISULFITE WITH STIRRING AT ROOM TEMPERATURE. AN INCREASE IN TEMPERA-
TURE INDICATES THAT A REACTION IS TAKING PLACE. IF NO REACTION IS
OBSERVED ON THE ADDITION OF ABOUT 10% OF THE SODIUM BISULFITE SOLUTION
INITIATE IT BY CAUTIOUSLY ADDING MORE ACID. IF MANGANESE, CHROMIUM,
OR MOLYBDENUM ARE PRESENT ADJUST THE PH OF THE SOLUTION TO 7 AND TREAT

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S P I L L O R L E A K P R O C E D U R E S

WITH SULFIDE TO PRECIPITATE FOR BURIAL AS HAZARDOUS WASTE. DESTROY EXCESS SULFIDE, NEUTRALIZE AND FLUSH THE SOLUTION DOWN THE DRAIN. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
AVOID BREATHING DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
HARMFUL SOLID.

IRRITANT.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.

L A B E L P R E C A U T I O N A R Y S T A T E M E N T S

OXIDIZING
HARMFUL
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
HARMFUL BY INHALATION AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):

BLOOD
LIVER
KEEP AWAY FROM COMBUSTIBLE MATERIAL.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

A D D I T I O N A L P R E C A U T I O N S A N D C O M M E N T S

A D D I T I O N A L I N F O R M A T I O N

MIXTURES OF POTASSIUM CHLORATE WITH: HYDROCARBONS, METAL PHOSPHIDES (ZN, AG, AL, CU, HG, MG, ETC.), METAL THIOCYANATES, METAL SULFIDES, ARSENIC, CARBON, PHOSPHOROUS, SULFUR, OR FINELY DIVIDED METALS (MG, CU, ZN, AL) ARE EXPLOSIVE AND MAY BE INITIATED BY LIGHT FRICTION, IMPACT OR HEAT. MIXTURES OF POTASSIUM CHLORATE WITH: SUCROSE, LACTOSE,

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