MATERIAL SAFETY DATA SHEET  

IDENTIFICATION  

PRODUCT #: 15777-5  
CAS #: 10026-13-8  
MF: CL5P  

NAME: PHOSPHORUS PENTACHLORIDE, 98%  

SYNONYMS  
FOSFORO(PENTACLORURO DI) (ITALIAN) * FOSFORPENTACLORCHLIDE (DUTCH) * PIECIOCHLORZEK FOSFORU (POLISH) * PHOSPHORE(PENTACLORURE DE) (FRENCH) * PHOSPHORIC CHLORIDE * PHOSPHORUS PENTACHLORIDE * PHOSPHORCHLORID (GERMAN)  

TOXICITY HAZARDS  

RTCS NO: TB6125000  
PHOSPHORANE, PENTACHLORO-  

ACGIH TLV-TWA 0.1 PPM 851NA 5.485, 86  
MSHA STANDARD-AIR: TWA 1 MG/MA, DTLYS 3.211, 71  
OSHA PE: 8H TWA 1 MG/MA FERAC 54.2923, 89  
OSHA PE: 8H TWA 1 MG/MA FERAC 54.2923, 89  
NOS 1974: HZD 59160; NIS 4; TNE 100; NOS 4; TNE 904  
NOS 1983: HZD 59160; NIS 2; TNE 21; NOS 17; TNE 2242; TFE 87  
EPA TSCA CHEMICAL INVENTORY, JUNE 1990  

ACUTE EFFECTS  
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.  
MATERIAL IS EXTREMELY Destructive TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.  
INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDEMA  

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HEALTH HAZARD DATA

AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS. 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. DISCARD CONTAMINATED SHOES.

PHYSICAL DATA

MELTING PT: 179 C TO 181 C (SUBL)
SPECIFIC GRAVITY: 1.600
VAPOR PRESSURE: <1 MM @ 20 C
APPEARANCE AND ODOR: YELLOW POWDER

FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS. DO NOT USE WATER.

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

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS. WATER HYDROLYZES. MATERIAL LIBERATING ACIDIC GAS WHICH IN CONTACT WITH METAL SURFACES CAN GENERATE FLAMMABLE AND/OR EXPLOSIVE HYDROGEN GAS.

REACTIVITY DATA

INCOMPATIBILITIES
ALCOHOLS REACTS VIOLENTLY WITH WATER.
AMINES
ALUMINUM
SODIUM

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--------- REACTIVITY DATA ---------

POTASSIUM ACIDS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
HYDROGEN CHLORIDE GAS
THERMAL DECOMPOSITION MAY PRODUCE TOXIC FUMES OF PHOSPHORUS OXIDES
AND/OR PHOSPHINE.

--------- SPILL OR LEAK PROCEDURES ---------

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
Sweep up, place in a bag and hold for waste disposal.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHOD
PLEASE CONTACT THE TECHNICAL SERVICES DEPARTMENT. BE SURE TO MENTION
THE NAME, CATALOG NUMBER, AND THE QUANTITY OF THE MATERIAL.
OBSERVE ALL FEDERAL, STATE, AND LOCAL LAWS.

-- PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE --
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
FACESHIELD (18-INCH MINIMUM).
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
CORROSIVE.
TOXIC.
KEEP TIGHTLY CLOSED.
DO NOT ALLOW CONTACT WITH WATER.
STORE UNDER NITROGEN.
STORE IN A COOL DRY PLACE.

--------- ADDITIONAL PRECAUTIONS AND COMMENTS ---------

ADDITIONAL INFORMATION
A SOLUTION OF PHOSPHORUS PENTACHLORIDE IN NITROBENZENE IS STABLE AT
CONTINUED ON NEXT PAGE

Belgium/Holland
Aldrich Chemie
Briewaldsebaan 140 b 1
B-8200 Sint-Truiden
Telephone: 031/32 14 48
Fax: 031/32 14 48

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ADDITIONAL PRECAUTIONS AND COMMENTS

110 C BUT BEGINS TO DECOMPOSE WITH ACCELERATING VIOLENCE ABOVE 120 C WITH EVOLUTION OF NITROUS FUMES. A HEATED MIXTURE WITH MAGNESIUM OXIDE INCANDESCES BRILLIANTLY, VIOLENT REACTION WITH PHOSPHORUS(III) OXIDE OR HYDROXYLMALAMINE AT AMBIENT TEMPERATURE. PHOSPHORUS PENTACHLORIDE IGNITES ON CONTACT WITH FLUORINE AND EXPLODES ON CONTACT WITH A MIXTURE OF CHLORINE AND CHLORINE DIOXIDE. A DRY MIXTURE WITH UREA EXPLODES AFTER HEATING, PROBABLY Owing TO THE FORMATION OF NITROGEN TRICHLORIDE.

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