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

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

CATALOG #: 431419
 NAME: PHOSPHORUS PENTOXIDE, REAGENTPLUS,
 99.99+%

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 1314-56-3
 MF: O10P4
 EC NO: 215-236-1

SYNONYMS

DIPHOSPHORUS PENTOXIDE * PHOSPHORUS(V) OXIDE * PHOSPHORUS PENTAOXIDE *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)
 TOXIC (EU)
 REACTS VIOLENTLY WITH WATER.
 TOXIC BY INHALATION.
 CAUSES BURNS.
 DO NOT BREATHE DUST.
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
 PROTECTION.
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -

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

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

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.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

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.
 EVACUATE AREA.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

SAFETY SHOWER AND EYE BATH.
 USE ONLY IN A CHEMICAL FUME HOOD.
 WASH CONTAMINATED CLOTHING BEFORE REUSE.
 WASH THOROUGHLY AFTER HANDLING.
 NIOSH/MSHA-APPROVED RESPIRATOR.
 COMPATIBLE CHEMICAL-RESISTANT GLOVES.
 CHEMICAL SAFETY GOGGLES.
 DO NOT BREATHE DUST.
 DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
 AVOID PROLONGED OR REPEATED EXPOSURE.
 CORROSIVE.
 TOXIC.
 KEEP TIGHTLY CLOSED.
 STORE IN A COOL DRY PLACE.
 DO NOT ALLOW CONTACT WITH WATER.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

PHYSICAL PROPERTIES

VAPOR PRESSURE: 10MM 238 C 1MM 384 C
 SPECIFIC GRAVITY: 2.300
 VAPOR DENSITY: 4.9
 SWISS POISON CLASS: 2

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

STABILITY

STABLE.

INCOMPATIBILITIES

WATER
 SODIUM
 POTASSIUM
 AMMONIA
 PEROXIDES
 MAGNESIUM
 ALCOHOLS
 METALS

OXIDIZING AGENTS

REACTION WITH 95% FORMIC ACID CAUSED RAPID EVOLUTION OF CARBON MONOXIDE. DRY MIXTURES WITH SODIUM OXIDE, CALCIUM OXIDE REACT VIOLENTLY IF WARMED OR MOISTENED. A REACTION WITH SODIUM CARBONATE MAY BE INITIATED BY STRONG LOCAL HEATING. THE ADDITION OF PHOSPHOROUS PENTOXIDE TO 3-PROPYNOL RESULTS IN IGNITION. REACTS VIGOROUSLY WITH HYDROGEN FLUORIDE, VIOLENTLY WITH IODIDES, SULFIDES AND EXPLOSIVELY WITH CALCIUM WHEN HEATED. INCOMPATIBLE WITH: BROMINE PENTAFLUORIDE, CHLORINE TRIFLUORIDE, PERCHLORIC ACID AND OXYGEN DIFLUORIDE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

THERMAL DECOMPOSITION MAY PRODUCE TOXIC FUMES OF PHOSPHORUS OXIDES AND/OR PHOSPHINE.

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

CAUSES BURNS.

HARMFUL IF ABSORBED THROUGH SKIN.

TOXIC IF INHALED.

MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION CAN CAUSE IMMEDIATE BURNING PAIN IN THE MOUTH, THROAT, ABDOMEN; SEVERE SWELLING OF THE LARYNX AND SKELETAL PARALYSIS AFFECTING THE ABILITY TO BREATHE, CIRCULATORY SHOCK AND CONVULSIONS.

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.

SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: TH3945000

PHOSPHORUS OXIDE

TOXICITY DATA

IHL-RAT LC50:1217 MG/M3/1H	TOXID9 1,140,1981
IHL-MUS LC50:271 MG/M3/1H	TOXID9 1,140,1981
IHL-RBT LC50:1689 MG/M3/1H	TOXID9 1,140,1981
IHL-GPG LC50:61 MG/M3/1H	TOXID9 1,140,1981

ADDITIONAL INFORMATION

ORL-RAT LD50:>1000 MG/KG

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -
DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

EC INDEX NO: 015-010-00-0

TOXIC

R 35

CAUSES SEVERE BURNS.

S 22

DO NOT BREATHE DUST.

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

OEL-AUSTRIA: MAK 1 MG/M3, JAN1999

OEL-DENMARK: CEILING 1 MG/M3, JAN1999

OEL-FRANCE: VME 1 MG/M3, JAN1999

OEL-GERMANY: MAK 1 MG/M3, JAN1999

OEL-HUNGARY: TWA 1 MG/M3, STEL 2 MG/M3, JAN1993

OEL-THE NETHERLANDS: MAC-TGG 1 MG/M3, JAN1999

OEL-NORWAY: TWA 1 MG/M3, JAN1999

OEL-POLAND: MAC(TWA) 1 MG/M3, STEL 3 MG/M3, JAN1999

OEL-RUSSIA: STEL 1 MG/M3, SKIN, JAN1993

OEL-SWITZERLAND: MAK-W 1 MG/M3, KZG-W 2 MG/M3, JAN1999

OEL-TURKEY: TWA 1 MG/M3, JAN1993

OEL-UNITED KINGDOM: STEL 2 MG/M3, SEP2000

NOHS 1974: HZD 59115; NIS 25; TNF 1139; NOS 43; TNE 13561

NOES 1983: HZD 59115; NIS 58; TNF 4491; NOS 46; TNE 84850; TFE 15744

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

SECTION 16. - - - - - OTHER INFORMATION - - - - -

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