

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
PRASEODYMIUM TITANIUM OXIDE

GENERAL INFORMATION

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

COMPANY'S STREET: 37 RAMLAND ROAD
COMPANY'S CITY: ORANGEBURG
COMPANY'S STATE: NEW YORK
COMPANY'S ZIP CODE: 10962
EMERGENCY CHEMTREC #: 800-262-8200
COMPANY'S EMERGENCY TEL. #: 800-424-9300 (LOCAL)
703-527-3887 (INTERNATIONAL)
COMPANY'S TEL #: 845-494-2940
DATE MSDS PREPARED: 10/14/11

1. IDENTIFICATION

CHEMICAL NAME: PRASEODYMIUM TITANIUM OXIDE
SYNONYMS: PRASEODYMIUM TITANATE
CHEMICAL FORMULA: PrTiO3
CAS #: NIL

2. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: Xn HARMFUL
RISK PHRASES: R 40 LIMITED EVIDENCE OF CARCINOGENIC EFFECT
3.6/2- SUSPECTED OF CAUSING CANCER

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

3. PHYSICAL DATA

APPEARANCE: SPUTTERING TARGETS, PIECES OR POWDER,
ODORLESS
MELTING POINT: 2200-2300 C
DENSITY (G/CC): N/A
EVAPORATION RATE: N/A
VAPOR PRESSURE (MM HG): N/A
VAPOR DENSITY (AIR=1): N/A
% VOLATILE: N/A
SOLUBILITY IN WATER: INSOLUBLE

4. FIRE AND EXPLOSION HAZARDS DATA

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: NO DATA
FLAMMABLE LIMITS IN AIR:
LOWER: N/A
UPPER: N/A
EXTINGUISHING MEDIA: NOT CONSIDERED A FIRE HAZARD. USE WATER,
CARBON DIOXIDE, AND DRY CHEMICAL
EXTINGUISHING AGENTS, DRY SAND, OR DRY
GROUND DOLOMITE.

FIRE FIGHTING PROCEDURES: WEARING NIOSH/MSHA APPROVED SELFCONTAINED BREATHING APPARATUS, FLAME AND CHEMICAL RESISTANT CLOTHING; HATS, BOOTS AND GLOVES. IF WITHOUT RISK, REMOVE MATERIAL FROM FIRE AREA. COOL CONTAINER WITH WATER FROM MAXIMUM DISTANCE.

5. HEALTH HAZARD INFORMATION

OSHA (PEL): NONE ESTABLISHED
ACGIH (TLV): NONE ESTABLISHED
CARCINOGENICITY: NTP: NO, IARC: NO, OSHA: NO, EPA: NO
HEALTH HAZARDS: N/K
MOST LIKELY ROUTES OF ENTRY: INGESTION
EFFECTS OF OVEREXPOSURE:
ACUTE EFFECTS:
INGESTION: N/K
SKIN CONTACT: N/K
EYE CONTACT: MAY CAUSE IRRITATION
INHALATION: MAY CAUSE IRRITATION
CHRONIC EFFECTS:
SUBACUTE TO CHRONIC TOXICITY: TITANIUM AND TITANIUM COMPOUNDS ARE CONSIDERED PHYSIOLOGICALLY INERT. THERE ARE NO REPORTED CASES IN THE LITERATURE WHERE TITANIUM AS SUCH HAS CAUSED HUMAN INTOXICATION.

INGESTION: N/K
SKIN CONTACT: N/K
EYE CONTACT: N/K
INHALATION: N/K
EFFECTS OF OVER EXPOSURE: TO THE BEST OF OUR KNOWLEDGE THE CHEMICAL, PHYSICAL AND TOXICOLOGICAL PROPERTIES OF PRASEODYMIUM METAL HAVE NOT BEEN THOROUGHLY INVESTIGATED AND RECORDED.

PRASEODYMIUM IS CONSIDERED A RARE EARTH METAL. THESE METALS ARE MODERATELY TO HIGHLY TOXIC. THE SYMPTOMS OF TOXICITY OF THE RARE EARTH ELEMENTS INCLUDE WRITHING, ATAXIA, LABORED RESPIRATION, WALKING ON THE TOES WITH ARCHED BACK AND SEDATION. THE RARE EARTH ELEMENTS EXHIBIT LOW TOXICITY BY INGESTION EXPOSURE. HOWEVER, THE INTRAPERITONEAL ROUTE IS HIGHLY TOXIC WHILE THE SUBCUTANEOUS ROUTE IS POISON TO MODERATELY TOXIC. THE PRODUCTION OF SKIN AND LUNG GRANULOMAS AFTER EXPOSURE TO THEM REQUIRES EXTENSIVE PROTECTION TO PREVENT SUCH EXPOSURE. (SAX, DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, EIGHTH EDITION)

ACUTE EFFECTS:
INHALATION: MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT AND MUCOUS MEMBRANE. DUSTS MAY CAUSE ASTHMA ATTACKS AND LUNG DAMAGE SUCH AS LUNG GRANULOMAS. LARGE DOSES MAY CAUSE IMMEDIATE DEFECATION, WRITHING, LOSS OF MUSCLE COORDINATION, LABORED

HYPOTENSION AND
FAILURE.

INGESTION:
IRRITATION.

SKIN:

EYE:

CHRONIC EFFECTS:

TARGET ORGANS:

MEDICAL CONDITIONS GENERALLY

AGGRAVATED BY EXPOSURE:

RESPIRATION, SEDATION,
CARDIOVASCULAR

MAY CAUSE GASTROINTESTINAL

MAY CAUSE
IRRITATION, RASHES AND SKIN
GRANULOMAS.

MAY CAUSE IRRITATION.

NO INFORMATION FOUND

NONE KNOWN

PRE-EXISTING RESPIRATORY DISORDER.

6. EMERGENCY AND FIRST AID PROCEDURES

INGESTION:

NO DATA AVAILABLE. IF REQUIRED, SEEK MEDICAL
ATTENTION.

SKIN:

REMOVE CONTAMINATED CLOTHING, WASH SKIN
WITH LARGE AMOUNTS OF WATER.

EYES:

IMMEDIATELY FLUSH EYES, INCLUDING UNDER
EYELIDS, WITH LARGE AMOUNTS OF WATER.

INHALATION:

NO DATA AVAILABLE. IF REQUIRED. SEEK MEDICAL
ATTENTION.

7. REACTIVITY DATA

STABILITY:

STABLE

INCOMPATIBILITY:

OXIDIZING AGENTS

CONDITIONS TO AVOID:

NO DATA

HAZ. DECOMPOSITION PRODUCTS:

METAL OXIDE FUME

HAZ. POLYMERIZATION:

WILL NOT OCCUR

8. SPILL OR LEAK PROCEDURES

IF MATERIAL IS RELEASED/SPILLED:

WEAR APPROPRIATE RESPIRATORY AND
PROTECTIVE EQUIPMENT. COVER SPILL
WITH DRY SAND OR VERMICULITE. MIX WELL AND
CAREFULLY TRANSFER TO A CONTAINER.

WASTE DISPOSAL METHOD:

DISPOSAL MUST BE MADE IN ACCORDANCE WITH
FEDERAL, STATE AND LOCAL EPA REGULATIONS.

9. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

HIGH EFFICIENCY PARTICULATE RESPIRATOR.

VENTILATION REQUIREMENTS:

LOCAL EXHAUST

PROTECTIVE GLOVES:

RUBBER

EYE PROTECTION:

ANSI APPROVED SAFETY GOGGLES

10. HANDLING AND STORAGE

HANDLING:

KEEP CONTAINER TIGHTLY CLOSED. WASH
THOROUGHLY AFTER USE.

STORAGE:

STORE IN A COOL, DRY, WELL VENTILATED AREA.

WARNING: IRRITATES EYES AND LUNGS.

11. TRANSPORT INFORMATION

UN NUMBER:	N/A
RAIL/ROAD (RID/ADR):	NOT RESTRICTED
MARITIME TRANSPORT (IMO/MDG):	NOT RESTRICTED
AIR TRANSPORT (ICAO-IATA):	NOT RESTRICTED

12. TOXICITY DATA

CARCINOGENICITY:	NO CLASSIFICATION DATA ON CARCINOGENIC PROPERTIES OF THIS MATERIAL IS AVAILABLE FROM THE EPA, IARC, NTP, OSHA, OR ACGIH.
ADDITIONAL INFORMATION:	TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY KNOWN.

13. OTHER INFORMATION

THIS SAFETY DATA SHEET SHOULD BE USED IN CONJUNCTION WITH TECHNICAL SHEETS. IT DOES NOT REPLACE THEM. THE INFORMATION GIVEN IS BASED ON OUR KNOWLEDGE OF THIS PRODUCT, AT THE TIME OF PUBLICATION. IT IS GIVEN IN GOOD FAITH. THE ATTENTION OF THE USER IS DRAWN TO THE POSSIBLE RISKS INCURRED BY USING THE PRODUCT FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS INTENDED. THIS DOES NOT IN ANY WAY EXCUSE THE USER FROM KNOWING AND APPLYING ALL THE REGULATIONS GOVERNING HIS ACTIVITY. IT IS THE SOLE RESPONSIBILITY OF THE USER TO TAKE ALL PRECAUTIONS REQUIRED IN HANDLING THE PRODUCT. THE AIM OF THE MANDATORY REGULATIONS MENTIONED IS TO HELP THE USER TO FULFILL HIS OBLIGATIONS REGARDING THE USE OF HAZARDOUS PRODUCTS.