

SECTION 1**CHEMICAL PRODUCTS & COMPANY IDENTIFICATION****LANGELOTH METALLURGICAL COMPANY LLC**

AN AFFILIATE OF THOMPSON CREEK METALS COMPANY

10 LANGELOTH PLANT DRIVE**P.O. BOX 608****LANGELOTH, PA 15054**

FOR EMERGENCY INFORMATION

PRODUCTION: (724) 947-2201

SALES: (303) 761-8801

FAX: (303) 761-7420

CHEMTREC:

Domestic: (800)-424-9300

International: (202)-483-7616

SUBSTANCE: MOLYBDENUM TRIOXIDE (PURE)**TRADE NAMES/SYNONYMS:** PURE MOLYBDENUM OXIDE; MoO₃; MOLY TRIOXIDE**CHEMICAL FAMILY:** INORGANIC ACID; METAL OXIDE**SECTION 2****COMPOSITION/INFORMATION ON INGREDIENTS****COMPONENT:** MOLYBDENUM TRIOXIDE**CAS NUMBER:** 1313-27-5**PERCENTAGE:** 99+**SECTION 3****HAZARDS IDENTIFICATION****NFPA RATINGS (SCALE 0-4):** HEALTH = 3 FIRE = 0 REACTIVITY = 0**EMERGENCY OVERVIEW:** Odorless, colorless to white or yellow to blue solid. Causes respiratory tract, skin and eye irritation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. Keep container closed. Wash after handling. Use with adequate ventilation.**POTENTIAL HEALTH EFFECTS:****SHORT TERM EXPOSURE:** May cause irritation of the nose, throat, skin, and eyes. Additional effects may include blurred vision.**LONG TERM EXPOSURE:** May cause lack of appetite, weight loss, diarrhea, coughing, lung damage and incoordination.**CARCINOGEN STATUS:**

OSHA: N

NTP: N

IARC: N

SECTION 4**FIRST AID MEASURES****INHALATION:** FIRST AID - Remove from exposure area to fresh air. If breathing has stopped, perform artificial respiration. Get medical attention.**SKIN CONTACT:** FIRST AID - Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention.**EYE CONTACT:** FIRST AID - Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention.**INGESTION:** FIRST AID - Get medical attention if needed. If vomiting occurs, keep head lower than hips to prevent aspiration.

SECTION 5**FIRE FIGHTING MEASURES**

FIRE AND EXPLOSION HAZARD: Negligible fire hazard when exposed to heat or flame.

EXTINGUISHING MEDIA: Extinguish using agent suitable for type of surrounding fire.

FIREFIGHTING: No acute hazard. Move container from fire area if you can do it without risk. Avoid breathing dusts and vapors; keep upwind.

HAZARDOUS COMBUSTION PRODUCTS: None hazardous.

SECTION 6**ACCIDENTAL RELEASE MEASURES**

OCCUPATIONAL SPILL: Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry.

SECTION 7**HANDLING AND STORAGE**

STORAGE: Observe all federal, state and local regulations when storing this substance.

SECTION 8**EXPOSURE CONTROLS/PERSONAL PROTECTION**

EXPOSURE LIMITS:**MOLYBDENUM, SOLUBLE COMPOUNDS (AS Mo):**

5 mg/m₃ OSHA TWA

5 mg/m₃ ACGIH TWA

5 mg/m₃ DFG MAK TWA (total dust);

50 mg/m₃ DFG MAK 30 minute peak, average value, 1 time/shift

VENTILATION: Provide local exhaust or process enclosure ventilation to meet published exposure limits.

EYE PROTECTION: Employee should wear splash-proof or dust-resistant safety goggles to prevent eye contact with this substance.

EMERGENCY EYE WASH FACILITIES: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain within the immediate work area for emergency use.

CLOTHING: Employee should wear appropriate protective clothing and equipment to prevent repeated or prolonged skin contact with this substance.

GLOVES: Employee should wear appropriate protective gloves to prevent contact with this substance.

RESPIRATOR: The following respirators are recommended based on information found in the physical data, toxicity and health effects sections. They are ranked in order from minimum to maximum respiratory protection. The specific respirator selected must be based on contamination levels found in the work place, must be based on the specific operation, must not exceed the working limits of the respirator and must be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

-Any dust, mist, and fume respirator.

-Any chemical cartridge respirator with a dust, mist, and fume filter.

-Any powered air-purifying respirator with a dust, mist, and fume filter.

-Any type 'C' supplied-air respirator with a full facepiece operated in pressure-demand or other positive-pressure mode or with a full facepiece, helmet or hood operated in continuous-flow mode.

-Any self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive-pressure mode.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION: Odorless, colorless to white or slightly yellow to bluish powder, granules or rhombic crystals.

MOLECULAR WEIGHT: 143.94

MOLECULAR FORMULA: MoO₃

BOILING POINT: 2102 F (1150 C) sublimes

MELTING POINT: 1463 F (795 C)

SPECIFIC GRAVITY: 4.692

WATER SOLUBILITY: 0.22% at 28 C

SOLVENT SOLUBILITY: Soluble in concentrated mixtures of nitric and hydrochloric acid, concentrated nitric and sulfuric acids, ammonium or potassium bitartrate, ammonia hydroxide, alkali hydroxides, sulfuric acid.

SECTION 10

STABILITY AND REACTIVITY

REACTIVITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: May burn but does not ignite readily. Flammable, poisonous gases may accumulate in tanks and hopper cars. May ignite combustibles (wood, paper, oil, etc.).

INCOMPATIBILITIES:

BROMINE PENTAFLUORIDE: Violent reaction which may ignite

CHLORINE TRIFLUORIDE: Violent reaction which may ignite

LITHIUM: Reacts

MAGNESIUM: When heated a violent detonation may occur

POTASSIUM: Reacts with incandescence

SODIUM: Reacts violently

HAZARDOUS DECOMPOSITION: None hazardous

POLYMERIZATION: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

SECTION 11

TOXICOLOGY INFORMATION

TOXICITY DATA: 6 mg/m³/4 years inhalation-man TCLO; > 5840 mg/m³/4 hours inhalation-rat LC50; >2 gm/kg skin-rat LD50; 2689 mg/kg oral-rat LD50; 94 mg/kg subcutaneous-mouse LD50; 141 mg/kg intraperitoneal-mouse LD50; 400 mg/kg intraperitoneal-guinea pig LD75; 94 mg/kg subcutaneous-mouse LD50; tumorigenic data (RTECS).

CARCINOGEN STATUS: None

LOCAL EFFECTS: Irritant - inhalation, skin, eye

ACUTE TOXICITY LEVEL: Moderately toxic by inhalation, ingestion; slightly toxic by dermal absorption.

Target effects: poisoning may affect the liver and kidneys.

TARGET EFFECTS: Poisoning may affect the liver and kidneys.

HEALTH EFFECTS:

INHALATION: Irritant

ACUTE EXPOSURE: May cause irritation to the mucous membranes of the throat and respiratory system.

CHRONIC EXPOSURE: Has been reported to cause fibrosis, focal pneumoconiosis, and cough in humans. Prolonged inhalation by guinea pigs caused nasal irritation, diarrhea, muscular incoordination, loss of weight and hair and fatty degeneration of liver and kidneys.

SKIN CONTACT: Irritant

ACUTE EXPOSURE: May cause irritation

CHRONIC EXPOSURE: No data available

EYE CONTACT: Irritant

ACUTE EXPOSURE: May cause irritation with redness, pain, and blurred vision.

CHRONIC EXPOSURE: repeated or prolonged exposure to irritants may cause conjunctivitis.

INGESTION:

ACUTE EXPOSURE: 2689 mg/kg is the lethal dose for rats. The symptoms of poisoning were not reported.

CHRONIC EXPOSURE: Prolonged feeding studies in animals resulted in anorexia, weight loss, and listlessness.

SECTION 12

ECOLOGICAL INFORMATION

ACUTE TOXICITY TO FISH: Tests on Rainbow trout, conducted in compliance with UK, US, Japanese and OECD GLP Standards, established a 96 hour LC50 of 130mg/l.

TOXICITY TO DAPHNIDS: Tests on Daphnia magna, conducted in compliance with UK, US, Japanese and OECD GLP Standards, established a 48 hour EC50 of 150 mg/l.

ALGAE GROWTH INHIBITION: Test on Scenedesmus subspicatus, conducted in compliance with UK, US, Japanese and OECD GLP Standards, established a 72 hour IC50 of >100mg/l.

EFFECT ON ACTIVATED SEWAGE SLUDGE: Tests on mixed population of activated sewage sludge microorganisms, conducted in compliance with UK, US, Japanese and OECD GLP Standards, established a 3 hour EC50 of 820 mg/l.

SECTION 13

DISPOSAL INFORMATION

WASTE DISPOSAL: Observe all federal, state and local regulations when disposing of this substance.

SECTION 14

TRANSPORATION INFORMATION

No classification currently assigned.

SECTION 15

REGULATORY INFORMATION

TSCA STATUS: Y

OTHER REGULATORY INFORMATION AVAILABLE:

CERCLA SECTION 103 (40 CFR 302.4):	N
SARA SECTION 302 (40 CFR 355.30):	N
SARA SECTION 304 (40 CFR 355.40):	N
SARA SECTION 313 (40 CFR 372.65):	Y
OSHA PROCESS SAFETY (29 CFR 1910.119):	N
CALIFORNIA PROPOSITION 65:	N

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40 CFR 370.21):

ACUTE HAZARD:	Y
CHRONIC HAZARD:	N
FIRE HAZARD:	N
REACTIVITY HAZARD:	N
SUDDEN RELEASE HAZARD:	N

SECTION 16

OTHER

No warranty is made, either express or implied. The information contained on this material safety data sheet is offered in good faith as accurate. We have reviewed the information and believe it to be correct but cannot guarantee its accuracy or completeness. Some individuals and/or situations may require health and safety precautions not included on this data sheet. It is the users obligation to evaluate and use this material safely and to comply with all applicable laws and regulations.