

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
TANTALUM TELLURIUM ALLOY

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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DATE MSDS PREPARED: 03/07/12

1. PRODUCT IDENTIFICATION

PRODUCT NAME: TANTALUM TELLURIUM
CHEMICAL NATURE: ALLOY
FORMULA: TaTe
CAS #: 7440-25-7/13494-80-9

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT 760 mm Hg: 990-5425 °C
MELTING POINT: 450-2996 °C
SPECIFIC GRAVITY: 9.825 GM/CC
VAPOR DENSITY: N/A
VAPOR PRESSURE: 0 @ 20 °C (mm/Hg)
% VOLATILES: N/A
SOLUBILITY IN H₂O: INSOLUBLE
APPEARANCE AND ODOR: POWDER, SPUTTERING TARGET, PIECES, GREY.METALLIC
COLOR, ODORLESS

3. HAZARD IDENTIFICATION

HAZARDOUS COMPONENTS %

TANTALUM 0-100%
OSHA/PEL: 5 MG/M³
ACGIH/TLV 5 MG/M³
SEC. 302 NO
SEC. 304 NO
SEC. 313 NO

HAZARDOUS COMPONENTS %

TELLURIUM 0-100%
OSHA/PEL: 0.1 MG/M³
ACGIH/TLV 0.1 MG/M³

HAZARD DESCRIPTION: Xi IRRITANT
F HIGHLY FLAMMABLE
T TOXIC
Xi IRRITANT

RISK PHRASES: R 11 HIGHLY FLAMMABLE
R 36/37/38 IRRITATING TO EYE, RESPIRATORY SYSTEM AND
SKIN
R25 TOXIC IF SWALLOWED
R36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND
SKIN

HMIS RATINGS:
HEALTH: 2
FIRE: 3
REACTIVITY: 1

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER: N/A
LOWER: <0.2 OZ/FT³ (POWDER)
FLAMMABILITY: NON-FLAMMABLE
EXTINGUISHING MEDIA: SPECIAL POWDER FOR METAL FIRES. DO NOT USE WATER.
SPECIAL FIRE FIGHTING PROCEDURES:

FIREFIGHTERS MUST WEAR FULL FACE, SELF-CONTAINED BREATHING APPARATUS WITH FULL PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES. FUMES FROM FIRE ARE HAZARDOUS. ISOLATE RUNOFF TO PREVENT ENVIRONMENTAL POLLUTION.

SPECIAL HAZARDS CAUSED BY MATERIAL:
UNUSUAL FIRE AND EXPLOSION HAZARDS:

IN CASE OF FIRE, METAL OXIDE FUMES ARE RELEASED.

WHEN HEATED TO DECOMPOSITION, TELLURIUM MAY EMIT TOXIC FUMES OF TELLURIUM. BURNS IN AIR WITH A GREENISH-BLUE FLAME, FORMING TELLURIUM DIOXIDE. MAY HAVE A HAZARDOUS REACTION WITH HALOGENS, INTERHALOGENS, METALS, HEXALITHIUM DISILICIDE, SILVER BROMATE AND SILVER IODATE.

5. HEALTH HAZARD INFORMATION

TANTALUM

EFFECTS OF EXPOSURE:

PRIMARY IRRITANT EFFECT:

SKIN: POWDER: IRRITANT EFFECT.

EYE: POWDER: IRRITANT EFFECT.

SENSITIZATION: NO SENSITIZING EFFECT KNOWN.

SUBACUTE TO CHRONIC TOXICITY: TANTALUM DUST HAS CAUSED TRANSIENT INFLAMMATORY LESIONS IN THE LUNGS OF ANIMALS.

TELLURIUM

EFFECTS OF EXPOSURE:

ELEMENTAL TELLURIUM HAS RELATIVELY LOW TOXICITY. IT IS CONVERTED IN THE BODY TO DIMETHYL TELLURIDE WHICH IMPARTS A GARLIC-LIKE ODOR TO THE BREATH AND SWEAT. HEAVY EXPOSURES MAY, IN ADDITION, RESULT IN HEADACHE, DROWSINESS, METALLIC TASTE, LOSS OF APPETITE, NAUSEA, TREMORS, CONVULSIONS, AND RESPIRATORY ARREST. (SAX, DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, EIGHTH EDITION)

ACUTE EFFECTS:

INHALATION:

TOXIC BY INHALATION. DUST MAY CAUSE IRRITATION TO THE RESPIRATORY SYSTEM, DRY MOUTH, GARLIC ODOR TO BREATH, SWEAT AND URINE, NAUSEA AND VOMITING.

INGESTION:

POISON BY INGESTION. MAY CAUSE DRY MOUTH, HEADACHE, SUPPRESSION OF SWEAT, GARLIC ODOR TO BREATH AND URINE.

SKIN:

MAY CAUSE IRRITATION AND ITCHING LEADING TO SLOW-HEALING ULCER.

EYE:

MAY CAUSE IRRITATION.

CHRONIC AFFECTS:

NHALATION: MAY CAUSE ANOREXIA, NAUSEA, DEPRESSION TO THE CENTRAL NERVOUS SYSTEM AND SOMNOLENCE.
NGESTION: MAY CAUSE ANOREXIA, NAUSEA, DEPRESSION TO THE CENTRAL NERVOUS SYSTEM AND SOMNOLENCE.
SKIN: MAY CAUSE DERMATITIS.
EYE: NO CHRONIC HEALTH EFFECTS RECORDED.
ROUTES OF EXPOSURE: INHALATION, INGESTION, SKIN, EYE.
TARGET ORGAN: NO TARGET ORGAN RECORDED
MEDICAL CONDITIONS GENERALLY
AGGRAVATED BY EXPOSURE: NONE RECORDED.
CARCINOGENITY:
NTP: NO
IARC: NO
OSHA: NO

6. STABILITY

STABILITY: STABLE
CONDITION TO AVOID: NONE
INCOMPATIBILITY
(MATERIAL TO AVOID): OXDIZING AGENTS. HALOGENS, INTERHALOGENS, METALS, HEXALITHIUM DISILICIDE, SILVER BROMATE, SILVER IODATE.
HAZARDOUS DECOMPOSITION PRODUCTS: METAL OXIDE FUME. OXIDES OF TELLURIUM AND HYDROGEN TELLURIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

7. EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: BREATHING DIFFICULTY CAUSED BY INHALATION OF DUST OR FUME REQUIRES REMOVAL TO FRESH AIR. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION AND OBTAIN MEDICAL ASSISTANCE AT ONCE.
INGESTION: SWALLOWING METAL POWDER OR DUST CAN BE TREATED BY HAVING THE AFFECTED PERSON SWALLOW LARGE QUANTITIES OF WATER AND ATTEMPTING TO INDUCE VOMITING IF CONSCIOUS. OBTAIN MEDICAL ASSISTANCE AT ONCE.
SKIN: SKIN CUTS AND ABRASIONS CAN BE TREATED BY STANDARD FIRST AID. SKIN CONTAMINATION WITH DUST OR POWDER CAN BE REMOVED BY WASHING WITH SOAP AND WATER. IF IRRITATION PERSISTS OBTAIN MEDICAL ASSISTANCE.
EYE: DUST OR POWDER SHOULD BE FLUSHED FROM THE EYES WITH COPIOUS AMOUNTS OF CLEAN WATER. IF IRRITATION PERSISTS OBTAIN MEDICAL ASSISTANCE. CONTACT LENSES SHOULD NOT BE WORN IF WORKING WITH METAL DUST SAND POWDERS

8. HANDLING AND STORAGE

HANDLING AND STORAGE STORE AND HANDLE IN ACCORDANCE WITH ALL CURRENT REGULATIONS AND STANDARDS. STORE FINELY-DIVIDED MATERIAL IN ORIGINAL SHIPPING CONTAINER OR IN METAL CONTAINERS. STORE FINELY-DIVIDED MATERIAL AWAY FROM OXIDIZERS AND MINERAL ACIDS

OTHER PRECAUTIONS: IMPLEMENT ENGINEERING AND WORK PRACTICE CONTROLS TO REDUCE AND MAINTAIN CONCENTRATION OF EXPOSURE AT LOW LEVELS. USE GOOD HOUSEKEEPING AND SANITATION PRACTICES. DO NOT USE TOBACCO OR FOOD IN WORK AREA. WASH THOROUGHLY BEFORE EATING OR SMOKING. DO NOT BLOW DUST OFF CLOTHING OR SKIN WITH COMPRESSED AIR.

IMPLEMENT ENGINEERING AND WORK PRACTICE CONTROLS TO REDUCE AND MAINTAIN CONCENTRATION OF EXPOSURE AT LOW LEVELS. USE GOOD HOUSEKEEPING AND SANITATION PRACTICES. DO NOT USE TOBACCO OR FOOD IN WORK AREA. WASH THOROUGHLY BEFORE EATING OR SMOKING. DO NOT BLOW DUST OFF CLOTHING OR SKIN WITH COMPRESSED AIR.

9. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: IN SOLID FORM THIS MATERIAL POSES NO SPECIAL CLEAN-UP PROBLEMS. IF THIS MATERIAL IS IN POWDER OR DUST FORM, CLEAN-UP SHOULD BE CONDUCTED WITH A VACUUM SYSTEM UTILIZING A HIGH EFFICIENCY PARTICULATE AIR FILTRATION SYSTEM. CAUTION SHOULD BE TAKEN TO MINIMIZE AIRBORNE GENERATION OF POWDER OR DUST AND AVOID CONTAMINATION OF AIR AND WATER. PROPERLY LABEL ALL MATERIALS COLLECTED IN WASTE CONTAINER

WASTE DISPOSAL METHOD: IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. TOXICITY DATA

TUMORIGENIC DATA: EQUIVOVAL TUMORGENIC AGENT BY RTECS CRITERIA.
CARCINOGENICITY: NO CLASSIFICATION DATA ON CARCINOGENIC PROPERTIES OF THIS MATERIAL IS AVAILABLE FROM THE EPA, IARC, NTP, OSHA, OR ACGIH.

TELLURIUM
LD50/LC50:
NHALATION, RAT: LC50 = >2420 MG/M3/4H;
ORAL, MOUSE: LD50 = 20 MG/KG;
ORAL, RABBIT: LD50 = 67 MG/KG;
ORAL, RAT: LD50 = 83 MG/KG.

ADDITIONAL INFORMATION: TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY KNOWN.

11. TRANSPORTATION DATA

TANTALUM
PROPER SHIPPING NAME: METAL POWDER, FLAMMABLE, N.O.S.
UN NUMBER: 3089
HAZARD CLASS: 4.1
PG II
ADR/RID TRANSPORT: 4.1 (F3) FLAMMABLE SOLIDS, SELF-REACTIVE SUBSTANCES AND SOLID DESENSITISED EXPLOSIVES

IMDG CLASS: 4.1
ICAO/IATA CLASS: 4.1

TELLURIUM

PROPER SHIPPING NAME:	TOXIC SOLID, INORGANIC, N.O.S.
UN NUMBER:	3288
HAZARD CLASS:	6.1
PACKING GROUP:	III
ADR//RID CLASS:	6.1 (T5) TOXIC SUBSTANCES
IMDG CLASS:	6.1
AIR TRAN. ICAO/IATA CLASS:	6.1

12. 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.

