MATERIAL SAFETY DATA SHEET

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SECTION 1 - IDENTIFICATION

Product Name: Tantalum Powder
Synonyms: None known
Chemical Family: Metallic element
CAS#:   7440-25-7
Molecular formula: Ta
EINECS Number: 231-135-5

SECTION 2 - INGREDIENTS

Chemical: Ta

CAS#	%	PEL	TLV
7440-25-7	100	5 mG/M^3	5 mG/M^3

SECTION 3 - PHYSICAL DATA

Boiling Point: 5425C
Ignition Temperature   300 C
Solubility in Water: Insoluble
Freezing/Melting Point: 2996C
Evaporation Rate (butyl acetate = 1):   0
Density: @ 20C 16.6 g/cm3
Vapor Pressure: Not Determined
Appearance and odor: Grey-black metal, odorless
Other: No data

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Auto-ignition Temperature: Minimum   300C for layer
                                                    630 C for cloud

Extinguishing Media:
> If involved in a fire, do not use water, carbon dioxide, or halogenated extinguishers. Use dry chemical extinguishing agents, dry sand, or dry ground dolomite.   .

Special Fire Fighting Procedures:
> Use normal firefighting procedures which include wearing NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant clothing, hats, boots, and gloves.   If without risk, remove material from fire area.

Unusual Fire and Explosion Hazards:
> Tantalum in the solid state will not burn.   Fine powder, wire, and foil may be a fire hazard, while fine powder dust may be an explosion hazard.   When heated, all forms of the metal may react with water or steam to produce explosive hydrogen gas.

SECTION 5 - HEALTH DATA

OSHA (PEL):   5 mG/M^3
ACGIH (TLV):   5 mG/M^3

A. ANIMAL TOXICITY
   LD50:   No data
   LC50:   No data
   Other: Implant-rat   Tdlo: 3760 mG/KG
                 Equivocal tumorigenic agent by RTECS criteria

B. EFFECTS OF EXPOSURE

   ACUTE EFFECTS
      Ingestion:
         None known.   Evidence suggests low toxicity potential due to poor absorption.
      Skin Contact: Powder or dust may cause irritation.
      Eye Contact: Powder or dust may cause irritation.
      Inhalation:
         Powder or dust may irritate mucous membranes and upper respiratory tract.
      Medical Conditions, if any, Aggravated by the Chemical:
         Pre-existing respiratory conditions.

Other Health Hazards: None known.
Most Likely Routes of Entry: Ingestion

CHRONIC EFFECTS
Ingestion: None known.
Skin Contact: None known.
Eye Contact: None known.
Inhalation:
   Tantalum dust has caused transient inflammatory lesions in the lungs of animals.
Other: Equivocal tumorigenic agent by RTECS criteria.
Carcinogenicity:
   NTP: No   IARC: No   OSHA: No   EPA: No

C. EMERGENCY AND FIRST AID PROCEDURES

Ingestion:
   No data available but one should obtain medical attention
Skin Contact:
   Remove contaminated clothing, flood skin with large amounts of water.   If irritation persists, seek medical attention.
Eye Contact:
   Immediately flush eyes, including under eyelids, with large amounts of water for at least 15 minutes.   Call a physician.
Inhalation:
   Remove to fresh air.   If required provide artificial respiration.   Seek immediate medical attention.

SECTION 6 - REACTIVITY

Incompatibility: Fluorine, bromine trifluoride, chlorine, strong alkali, hydrogen, hydrogen fluoride, lead chromate, strong oxidizers, halogens, interhalogens, Bases
Dangerous Reactions: Reacts with oxidizing agents
Hazardous Decomposition Products: Decomposition will not occur if used and stored according to specifications.
Stability: Stable
Hazardous Polymerization: None known.
Other: Powder may ignite spontaneously in air when finely divided.   Powder reacts violently with fluorine and bromine trifluoride.   Reactions of powder with oxidizers may cause fires and explosions.

Hazard Description: Xi Irritant, F Highly Flammable
Information Pertaining to Particular Dangers for Man and the Environment:
  R11 Highly Flammable, R36/37/38 Irritates eyes, respiratory system and skin

SECTION 7 - ENVIRONMENTAL INFORMATION

RCRA Code: D001
TSCA Registered: Yes
Spill and Leak Procedures: Wearing full protective equipment, cover spill with dry sand or vermiculite, Mix well and carefully transfer to a container.   Do not allow material to be released into the environment without proper government permits.
Waste Disposal: Consult state, local or federal EPA regulations for proper disposal.

SECTION 8 - PROTECTION INFORMATION

Ventilation Requirements: Glove bag or box with a dry inert atmosphere preferred.
    Keep away from ignition sources.
Respiratory Protection: High efficiency particle respirator
Protective Gloves: Rubber
Eye/Face Protection: ANSI approved safety goggles
Other: Keep away from food stuffs, beverages, and feed. Avoid contact with skin and wash hands before eating and at the end of the work day.

SECTION 9 - SPECIAL PRECAUTIONS

Handling and storage: Keep container tightly closed.   Store in a cool, dry, will-ventilated area.   Wash hands thoroughly after use.   Protect against electrostatic charges.
Other Precautions: Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.   Fumes can combine with air to form an explosive mixture.   Store away from oxidizing agents and halogens.   Store under a dry inert gas (dry argon)

Transportation – Hazard Class 4.1
              Identification UN3089
              Packing Group II

Proper shipping name – tantalum – metal powders, flammable, n.o.s., powder

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SECTION 10 - COMMENTS

Danger:
>   Combustible; dust cloud may explode when ignited; dust may irritate eyes and
>   lungs.

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