

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision Date: 01/21/2014 Supersedes: 01/07/2013

SDS No. 102

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product Identifier

Product Form: Mixture

Product Name: Titanium Alpha Alloy

Other means of identification: Titanium Alloy 1.2. Intended Use of the Product

Use of the Substance/Mixture: Metal alloy for multiple production uses1.3. Name, Address, and Telephone of the Responsible Party

Customer

RTI International Metals, Inc. 1000 Warren Avenue Niles, Ohio 44446 T 330-544-7633

#### www.rtiintl.com

1.4. Emergency Telephone Number

**Emergency Number**: 330-544-7655 or 800-424-9300

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC - Day or Night

## **SECTION 2: HAZARDS IDENTIFICATION**

## 2.1. Classification of the Substance or Mixture

**GHS-US Classification** 

Not classified

2.2. Label Elements

**GHS-US Labeling** 

Not applicable

#### 2.3. Other Hazards

**Other Hazards Not Contributing to the Classification:** This product shipped by RTI International Metals is physiologically inert in its solid form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

## 2.4. Unknown Acute Toxicity (GHS-US)

No data available

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.1. Substance

Not applicable

Full text of H-phrases: see section 16

### 3.2. Mixture

Name	Product Identifier	%	<b>GHS-US Classification</b>
Titanium	(CAS No) 7440-32-6	73 - 99	Flam. Sol. 1, H228
Vanadium	(CAS No) 7440-62-2	<0.1 - 15	Not classified
Chromium	(CAS No) 7440-47-3	<0.1 - 11	Not classified
Aluminum	(CAS No) 7429-90-5	<0.1 - 8	Comb. Dust, H232 Flam. Sol. 1, H228 Water-react. 2, H261 Aquatic Acute 1, H400
Manganese	(CAS No) 7439-96-5	<0.1 - 8	Not classified
Tin	(CAS No) 7440-31-5	<0.1 - 6	Comb. Dust, H232
Molybdenum	(CAS No) 7439-98-7	<0.1 - 6	Not classified
Zirconium	(CAS No) 7440-67-7	<0.1 - 4	Self-heat. 1, H251

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Name	Product Identifier	%	GHS-US Classification
Copper	(CAS No) 7440-50-8	<0.1 - 2.5	Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Tantalum	(CAS No) 7440-25-7	<0.1 - 1	Flam. Sol. 1, H228
Nickel	(CAS No) 7440-02-0	<0.1 - 0.8	Comb. Dust, H232 Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

## **SECTION 4: FIRST AID MEASURES**

## 4.1. Description of First Aid Measures

First-aid Measures General: If medical advice is needed, have product container or label at hand.

**First-aid Measures After Inhalation**: If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**First-aid Measures After Skin Contact**: Wash immediately with plenty of soap and water. Rinse with plenty of water. Remove contaminated clothing. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

**First-aid Measures After Eye Contact**: Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

**First-aid Measures After Ingestion**: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

## 4.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms/Injuries: None expected under normal conditions of use.

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation. During welding, the most significant route of exposure is by the inhalation (breathing) of welding fumes. If welding fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur.

**Symptoms/Injuries After Skin Contact:** Dust may cause irritation in skin folds or by contact in combination with tight clothing. Contact with hot, molten metal will cause thermal burns. Arc rays and sparks can burn skin.

Symptoms/Injuries After Eye Contact: Dust from this product may cause minor eye irritation.

Symptoms/Injuries After Ingestion: If large amounts are ingested: Gastrointestinal irritation.

Chronic Symptoms: Prolonged inhalation of dust may cause respiratory irritation.

Tin: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis.

Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis.

Zinc: Prolonged exposure to high concentrations of zinc fumes may cause "zinc shakes", an involuntary twitching of the muscles. Othersise, zinc is non-toxic.

Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure.

Nickel: May cause a form of dermatitis known as nickel itch. Intestinal irritation, which may cause disorders, convulsions and asphyxia.

## 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

## **SECTION 5: FIREFIGHTING MEASURES**

## 5.1. Extinguishing Media

Suitable Extinguishing Media: Cover with sand or earth. Metal fire extinction powder.

Unsuitable Extinguishing Media: Reacts with water to release flammable hydrogen gas.

## 5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Metallic dusts may ignite or explode. Fire may produce irritating and/or toxic gases.

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Explosion Hazard: Flammable dust. Dust clouds can be explosive. Avoid dust clouds in combination with static electricity.

**Reactivity:** Stable at ambient temperature and under normal conditions of use.

#### 5.3. Advice for Firefighters

Firefighting Instructions: Do not breathe fumes from fires or vapours from decomposition. Keep upwind.

**Protection During Firefighting:** Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

## 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

## 6.1.1. For Non-emergency Personnel

Protective Equipment: Wear eye protection.

Emergency Procedures: Avoid creating or spreading dust. Eliminate ignition sources.

# **6.1.2.** For Emergency Responders Protective Equipment: Safety glasses.

Emergency Procedures: Ventilate area. Eliminate ignition sources. Evacuate unnecessary personnel.

#### 6.2. Environmental Precautions

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

### 6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

**Methods for Cleaning Up:** Avoid generation of dust during clean-up of spills. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up. Use only non-sparking tools. Use explosion-proof equipment.

**6.4. Reference to Other Sections** See heading 8, Exposure Controls and Personal Protection.

## **SECTION 7: HANDLING AND STORAGE**

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Do not handle until all safety precautions have been read and understood. Fine dust dispersed in air may ignite. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

**Precautions for Safe Handling:** Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid creating or spreading dust. Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Ensure there is adequate ventilation. Wear recommended personal protective equipment.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke in areas where product is used. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in original container. Store in a dry, cool place. Store in a well-ventilated place. Keep container tightly closed

**Incompatible Materials:** Avoid contact with: strong acids. Mineral acids. Corrosive substances in contact with metals may produce flammable hydrogen gas.

## 7.3. Specific End Use(s)

Metal alloy for multiple production uses.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### 8.1. Control Parameters

Aluminum (7429-90-5)		
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³
Tin (7440-31-	5)	
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
Molybdenum	Molybdenum (7439-98-7)	
USA ACGIH	ACGIH TWA (mg/m³)	3 mg/m³
Chromium (7	Chromium (7440-47-3)	
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m <sup>3</sup>
Manganese (	Manganese (7439-96-5)	
USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³

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Zirconium (7	440-67-7)		
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³	
USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³	
Copper (7440	D-50-8)		
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m <sup>3</sup>	
Nickel (7440-02-0)			
<b>USA ACGIH</b>	ACGIH TWA (mg/m³)	1.5 mg/m³	

8.2. Exposure Controls

**Appropriate Engineering Controls** : Ensure adequate ventilation, especially in confined areas. Avoid dust production.

Take precautionary measures against static discharges. Use explosion-proof

equipment.

Personal Protective Equipment : Safety glasses. Gloves. Protective clothing. Insufficient ventilation: wear respiratory

protection.









**Hand Protection** : Impermeable protective gloves.

**Eye Protection** : Safety glasses.

Skin and Body Protection : Emergency eye wash fountains and safety showers should be available in the

immediate vicinity of any potential exposure.

**Respiratory Protection** : In case of inadequate ventilation wear respiratory protection. **Environmental Exposure Controls** : Ensure adequate ventilation, especially in confined areas.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

9.1. Information on Basic Physical and Chemical Properties

Physical State : Solid

Appearance: Metallic. Silver.Odor: Odourless.

**Odor Threshold** No data available pН No data available Relative Evaporation Rate (butylacetate=1) No data available **Melting Point** : 1660 °C (3020 °F) **Freezing Point** No data available **Boiling Point** : 3287 °C (5948.6 °F) **Flash Point** No data available **Auto-ignition Temperature** : 1200 °C (2192 °F) **Decomposition Temperature** No data available Flammability (solid, gas) No data available Vapor Pressure No data available Relative Vapor Density at 20 °C No data available

Specific Gravity : 4.5

**Relative Density** 

Solubility : Water: Insoluble
Log Pow : No data available
Log Kow : No data available
Viscosity, Kinematic : No data available
Viscosity, Dynamic : No data available

Explosive Properties : None.

Oxidizing Properties : None.

**Explosive Limits** : No data available

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No data available

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#### 9.2. Other Information

VOC content : 0 %

### **SECTION 10: STABILITY AND REACTIVITY**

- 10.1 Reactivity: Stable at ambient temperature and under normal conditions of use.
- 10.2 Chemical Stability: Product is stable.
- 10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
- **10.4 Conditions to Avoid:** Dust, chips, or ribbons can be ignited more easily, by an ignition source, by improper machining, or by spontaneous combustion if finely divided and damp.
- **10.5 Incompatible Materials:** Incompatible with: strong acids. Mineral acids. Corrosive substances in contact with metals may produce flammable hydrogen gas.
- **10.6 Hazardous Decomposition Products:** Under conditions of fire this material may produce: Oxides of iron. Oxides of titanium. Oxides of tin. Vanadium oxides. Oxides of aluminum. Chromium oxides. Oxides of manganese. Molybdenum oxides. Oxides of zinc. Oxides of copper. Oxides of nickel.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### 11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Manganese (7439-96-5)	
ATE (Oral)	9000.000 mg/kg bodyweight
Nickel (7440-02-0)	
LD50 Oral Rat	> 9000 mg/kg

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified Carcinogenicity: Not classified

Chromium (7440-47-3)	
IARC group 3	
Nickel (7440-02-0)	
IARC group 2B	
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified Specific Target Organ Toxicity (Repeated Exposure): Not classified

**Aspiration Hazard: Not classified** 

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation. During welding, the most significant route of exposure is by the inhalation (breathing) of welding fumes. If welding fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur.

**Symptoms/Injuries After Skin Contact:** Dust may cause irritation in skin folds or by contact in combination with tight clothing. Contact with hot, molten metal will cause thermal burns. Arc rays and sparks can burn skin.

**Symptoms/Injuries After Eye Contact:** Dust from this product may cause minor eye irritation. **Symptoms/Injuries After Ingestion:** If large amounts are ingested: Gastrointestinal irritation.

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**Chronic Symptoms:** Prolonged inhalation of dust may cause respiratory irritation.

Tin: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis.

Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis.

Zinc: Prolonged exposure to high concentrations of zinc fumes may cause "zinc shakes", an involuntary twitching of the muscles. Othersise, zinc is non-toxic.

Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure.

Nickel: May cause a form of dermatitis known as nickel itch. Intestinal irritation, which may cause disorders, convulsions and asphyxia.

## **SECTION 12: ECOLOGICAL INFORMATION**

## 12.1. Toxicity

Copper (7440-50-8)	
LC50 Fish 1	0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 1	0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
LC 50 Fish 2	0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Other Aquatic Organisms 2	0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella
	subcapitata [static])
Nickel (7440-02-0)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	0.18 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC 50 Fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 2	0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

## 12.2. Persistence and Degradability

Titanium Alpha Alloy	
Persistence and Degradability	Not readily biodegradable.
Copper (7440-50-8)	
Persistence and Degradability	Not readily biodegradable.

- 12.3. Bioaccumulative Potential No additional information available
- 12.4. Mobility in Soil No additional information available
- 12.5. Other Adverse Effects

No additional information available

## **SECTION 13: DISPOSAL CONSIDERATIONS**

## 13.1. Waste treatment methods

**Sewage Disposal Recommendations:** Do not empty into drains; dispose of this material and its container in a safe way. **Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, and international regulations.

## **SECTION 14: TRANSPORT INFORMATION**

- **14.1 In Accordance with DOT** Not regulated for transport
- **14.2 In Accordance with IMDG** Not regulated for transport
- **14.3 In Accordance with IATA** Not regulated for transport

## **SECTION 15: REGULATORY INFORMATION**

## 15.1 US Federal Regulations

Titanium Alpha Alloy	
SARA Section 311/312 Hazard Classes	Fire hazard

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Titanium (7440-32-6)

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U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New Jersey - Special Health Hazards Substances List

U.S. - Texas - Effects Screening Levels - Long Term

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Titanium (7440-32-6)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Aluminum (7429-90-5)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Listed on SARA Section 313 (Specific toxic chemical listing	s)	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)	
Vanadium (7440-62-2)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listing	s)	
SARA Section 313 - Emission Reporting	1.0 % (except when contained in an alloy)	
Tin (7440-31-5)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Molybdenum (7439-98-7)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Chromium (7440-47-3)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listing	s)	
SARA Section 313 - Emission Reporting	1.0 %	
Manganese (7439-96-5)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listing	s)	
SARA Section 313 - Emission Reporting	1.0 %	
Zirconium (7440-67-7)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Copper (7440-50-8)		
Listed on the United States TSCA (Toxic Substances Contro	ol Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listing	s)	
SARA Section 313 - Emission Reporting	1.0 %	
Tantalum (7440-25-7)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Nickel (7440-02-0)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Listed on SARA Section 313 (Specific toxic chemical listing	s)	
RQ (Reportable quantity, section 304 of EPA's List of	100 lb (only applicable if particles are < 100 μm)	
Lists):		
SARA Section 313 - Emission Reporting	0.1 %	
15.2 US State Regulations		
Titanium Alpha Alloy		
U.S California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of	
	California to cause cancer.	
State or local regulations	<b>WARNING!</b> This product contains one or more substances known to	
	the State of California to cause:	
	Cancer	
Nickel (7440-02-0)		
U.S California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of	
	California to cause cancer.	

U.S. - Texas - Effects Screening Levels - Short Term

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#### Aluminum (7429-90-5)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

## Vanadium (7440-62-2)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Tin (7440-31-5)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

### Molybdenum (7439-98-7)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Chromium (7440-47-3)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Manganese (7439-96-5)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Zirconium (7440-67-7)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

## Copper (7440-50-8)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Tantalum (7440-25-7)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Nickel (7440-02-0)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

## **SECTION 16: OTHER INFORMATION**

## **Other Information**

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

#### **GHS Full Text Phrases:**

Aquatic Acute 1	Hazardous to the aquatic environment — AcuteHazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Comb. Dust	Combustible Dust
Flam. Sol. 1	Flammable solids, Category 1
Self-heat. 1	Self-Heating Substances and Mixtures, Category 1
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1

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Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2
H228	Flammable solid
H232	May form combustible dust concentrations in air
H251	Self-heating: may catch fire
H261	In contact with water releases flammable gases
H317	May cause an allergic skin reaction
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

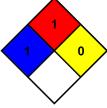
**NFPA Health Hazard** 

: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA Fire Hazard NFPA Reactivity

: 1 - Must be preheated before ignition can occur.: 0 - Normally stable, even under fire exposure

conditions, and are not reactive with water.



This information is taken from sources or based upon data believed to be reliable. However, RTI makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

SDS US (GHS HazCom) - US Only 10 pt 2

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