

# SAFETY DATA SHEET

Revision Date 24-Jan-2020

Version 5

# 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Nickel/Cobalt Alloy Compacts

Other means of identification

Product Code PM002

Synonyms

Nickel / Cobalt Alloy Compacts, including but not limited to, ATI Ni-15Co PM™ Compact,
ATI 247LC™ Compact, ATI 718Plus® Alloy Compact, ATI LR PM™ Compact, ATI®

Astroloy PM Compact, ATI 10 PM™ Compact, ATI Rene 95™ Compact, ATI 939 Alloy Compact, ATI 720 PM™ Compact, ATI GTD-222™ Alloy Compact, Rene 65™ Alloy Compact, Rene 88DT Compact, ATI ME16 Compact, and Waspalloy Compact

Recommended use of the chemical and restrictions on use
Recommended Use
Alloy product manufacture.

Uses advised against

Details of the supplier of the safety data sheet

**Manufacturer Address** 

ATI, 1000 Six PPG Place, Pittsburgh, PA

15222 USA

Emergency telephone number

Emergency Telephone Chemtrec: 1-800-424-9300

# 2. HAZARDS IDENTIFICATION

#### Classification

This material is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) This product is an article and, as such, does not present a hazard to human health by inhalation or ingestion

Acute toxicity - Oral	Category 4
Respiratory sensitization	Category 1B
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3

#### Label elements

#### **Emergency Overview**

#### Danger

# Hazard statements

Harmful if swallowed

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

May cause cancer

Suspected of damaging fertility or the unborn child

Causes damage to the respiratory tract through prolonged or repeated exposure if inhaled

Harmful to aquatic life

Harmful to aquatic life with long lasting effects



**Appearance** Various massive product forms

Physical state Solid

**Odor** Odorless

# **Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Wear protective gloves

If skin irritation or rash occurs: Get medical advice/attention

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Not applicable

#### Other Information

When product is subjected to welding, burning, melting, sawing, brazing, grinding, buffing, polishing, or other similar heat-generating processes, the following potentially hazardous airborne particles and/or fumes may be generated: Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### **Synonyms**

Nickel / Cobalt Alloy Compacts, including but not limited to, ATI Ni-15Co PM™ Compact, ATI 247LC™ Compact, ATI 718Plus® Alloy Compact, ATI LR PM™ Compact, ATI® Astroloy PM Compact, ATI 10 PM™ Compact, ATI Rene 95™ Compact, ATI 939 Alloy Compact, ATI 720 PM™ Compact, ATI GTD-222™ Alloy Compact, Rene 65™ Alloy Compact, Rene 88DT Compact, ATI ME16 Compact, and Waspalloy Compact.

Chemical Name	CAS No.	Weight-%
Nickel	7440-02-0	49 - 68
Cobalt	7440-48-4	2.5 - 25
Chromium	7440-47-3	8 - 23
Iron	7439-89-6	0 - 19
Molybdenum	7439-98-7	0 - 10
Tungsten	7440-33-7	0 - 10
Niobium (Columbium)	7440-03-1	0 - 10
Tantalum	7440-25-7	0 - 6
Titanium	7440-32-6	0 - 6
Aluminum	7429-90-5	0 - 6
Hafnium	7440-58-6	0 - 2
Vanadium	7440-62-2	0 - 2

# 4. FIRST AID MEASURES

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First aid measures

Eye contact In the case of particles coming in contact with eyes during processing, treat as with any

foreign object.

**Skin Contact** In the case of skin allergic reactions see a physician.

**Inhalation** If excessive amounts of smoke, fume, or particulate are inhaled during processing, remove

to fresh air and consult a qualified health professional.

**Ingestion** Not an expected route of exposure.

Most important symptoms and effects, both acute and delayed

**Symptoms** May cause allergic skin reaction. May cause acute gastrointestinal effects if swallowed.

Indication of any immediate medical attention and special treatment needed

# 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Product not flammable in the form as distributed, flammable as finely divided particles or pieces resulting from processing of this product. Isolate large fires and allow to burn out. Smother small fires with salt (NaCl) or class D dry powder fire extinguisher.

Unsuitable extinguishing media Do not spray water on burning metal as an explosion may occur. This explosive

characteristic is caused by the hydrogen and steam generated by the reaction of water with

the burning material.

#### Specific hazards arising from the chemical

Intense heat. Very fine, high surface area material resulting from grinding, buffing, polishing, or similar processes of this product may ignite spontaneously at room temperature. WARNING: Fine particles resulting from grinding, buffing, polishing, or similar processes of this product may form combustible dust-air mixtures. Keep particles away from all ignition sources including heat, sparks, and flame. Prevent dust accumulations to minimize combustible dust hazard.

Hazardous combustion products Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may

cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may

cause lung irritation.

**Explosion data** 

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

#### Protective equipment and precautions for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

**Personal precautions**Use personal protective equipment as required.

For emergency responders

Use personal protective equipment as required.

**Environmental precautions** 

**Environmental precautions**Not applicable to massive product.

Methods and material for containment and cleaning up

Methods for containment Not applicable to massive product.

North America; English

Methods for cleaning up

Not applicable to massive product.

#### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Advice on safe handling

Very fine, high surface area material resulting from grinding, buffing, polishing, or similar processes of this product may ignite spontaneously at room temperature. WARNING: Fine particles resulting from grinding, buffing, polishing, or similar processes of this product may form combustible dust-air mixtures. Keep particles away from all ignition sources including heat, sparks, and flame. Prevent dust accumulations to minimize combustible dust hazard.

#### Conditions for safe storage, including any incompatibilities

Storage Conditions Keep chips, turnings, dust, and other small particles away from heat, sparks, flame and

other sources of ignition (i.e., pilot lights, electric motors and static electricity).

**Incompatible materials** Dissolves in hydrofluoric acid. Ignites in the presence of fluorine. When heated above

200°C, reacts exothermically with the following: Chlorine, bromine, halocarbons, carbon

tetrachloride, carbon tetrafluoride, and freon.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Chemical Name	ACGIH TLV	OSHA PEL
Nickel 7440-02-0	TWA: 1.5 mg/m³ inhalable fraction	TWA: 1 mg/m <sup>3</sup>
Cobalt 7440-48-4	TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ Co	TWA: 0.1 mg/m³ dust and fume
Chromium 7440-47-3	TWA: 0.5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>
Iron 7439-89-6	-	-
Tungsten 7440-33-7	STEL: 10 mg/m³ STEL: 10 mg/m³ W TWA: 5 mg/m³ TWA: 5 mg/m³ W	(vacated) STEL: 10 mg/m³ (vacated) STEL: 10 mg/m³ W
Niobium (Columbium) 7440-03-1	-	-
Molybdenum 7439-98-7	TWA: 10 mg/m³ inhalable fraction TWA: 3 mg/m³ respirable fraction	-
Titanium 7440-32-6	-	-
Tantalum 7440-25-7	-	TWA: 5 mg/m <sup>3</sup>
Aluminum 7429-90-5	TWA: 1 mg/m³ respirable fraction	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction
Vanadium 7440-62-2	-	Ceiling: 0.5 mg/m³ V2O5 respirable dust Ceiling: 0.1 mg/m³ V2O5 fume
Hafnium 7440-58-6	TWA: 0.5 mg/m³ TWA: 0.5 mg/m³ Hf	TWA: 0.5 mg/m <sup>3</sup>

#### **Appropriate engineering controls**

**Engineering Controls** Avoid generation of uncontrolled particles.

# Individual protection measures, such as personal protective equipment

**Eye/face protection** When airborne particles may be present, appropriate eye protection is recommended. For

example, tight-fitting goggles, foam-lined safety glasses or other protective equipment that

shield the eyes from particles.

**Skin and body protection** Fire/flame resistant/retardant clothing may be appropriate during hot work with the product.

Cut-resistant gloves and/or protective clothing may be appropriate when sharp surfaces are

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present.

Respiratory protection When particulates/fumes/gases are generated and if exposure limits are exceeded or

irritation is experienced, proper approved respiratory protection should be worn.

Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local

Not applicable Not applicable

Not applicable

Not applicable

Not applicable

regulations.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

Physical state Solid

AppearanceVarious massive product formsOdorOdorlessColorMetallic gray or silverOdor thresholdNot applicable

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

pH - Not applicable

Melting point / freezing point 1400-1540 °C / 2560-2800 °F

Boiling point / boiling range - Flash point -

Evaporation rate - Not applicable

Flammability (solid, gas) - Product not flammable in the form as distributed,

flammable as finely divided particles or pieces resulting from processing of this product

Flammability Limit in Air

Upper flammability limit: Lower flammability limit: -

Vapor pressure-Not applicableVapor density-Not applicable

Specific Gravity 8.0-8.5 Water solubility Insoluble

Solubility in other solvents Partition coefficient Autoignition temperature Decomposition temperature Kinematic viscosity Dynamic viscosity -

Explosive properties

Oxidizing properties

Not applicable
Not applicable

**Other Information** 

Softening point -

Molecular weight - Not ann

VOC Content (%) Not applicable

Density -Bulk density -

# 10. STABILITY AND REACTIVITY

#### Reactivity

Not applicable

# **Chemical stability**

Stable under normal conditions.

#### **Possibility of Hazardous Reactions**

None under normal processing.

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Hazardous polymerization

Hazardous polymerization does not occur.

#### Conditions to avoid

Dust formation and dust accumulation.

#### Incompatible materials

Dissolves in hydrofluoric acid. Ignites in the presence of fluorine. When heated above 200°C, reacts exothermically with the following: Chlorine, bromine, halocarbons, carbon tetrachloride, carbon tetrafluoride, and freon.

#### **Hazardous Decomposition Products**

When product is subjected to welding, burning, melting, sawing, brazing, grinding, buffing, polishing, or other similar heat-generating processes, the following potentially hazardous airborne particles and/or fumes may be generated: Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

#### 11. TOXICOLOGICAL INFORMATION

# Information on likely routes of exposure

#### **Product Information**

**Inhalation** Not an expected route of exposure for product in massive form.

Eye contact Not an expected route of exposure for product in massive form.

**Skin Contact** May cause sensitization by skin contact.

**Ingestion** Not an expected route of exposure for product in massive form.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Nickel 7440-02-0	> 9000 mg/kg bw	-	> 10.2 mg/L
Cobalt 7440-48-4	550 mg/kg bw	>2000 mg/kg bw	<0.05 mg/L
Chromium 7440-47-3	> 3400 mg/kg bw	-	> 5.41 mg/L
Iron 7439-89-6	98,600 mg/kg bw	-	> 0.25 mg/L
Tungsten 7440-33-7	> 2000 mg/kg bw	> 2000 mg/kg bw	> 5.4 mg/L
Niobium (Columbium) 7440-03-1	> 10,000 mg/kg bw	> 2000 mg/kg bw	-
Molybdenum 7439-98-7	> 2000 mg/kg bw	> 2000 mg/kg bw	> 5.10 mg/L
Titanium 7440-32-6	> 5000 mg/kg bw	-	-
Tantalum 7440-25-7	> 2000 mg/kg bw	> 2000 mg/kg bw	> 5.18 mg/L
Aluminum 7429-90-5	15,900 mg/kg bw	-	> 1 mg/L
Vanadium 7440-62-2	> 2000 mg/kg bw	-	-
Hafnium 7440-58-6	> 5000 mg/kg bw	-	>4.3mg/L

#### Information on toxicological effects

**Symptoms** 

May cause sensitization by skin contact. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause acute gastrointestinal effects if swallowed.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Acute toxicity** 

Harmful if swallowed. Cobalt-containing powders may be fatal if inhaled.

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**Skin corrosion/irritation Serious eye damage/eye irritation**Product not classified.
Product not classified.

Sensitization May cause sensitization by skin contact. Cobalt-containing alloys may cause sensitization

by inhalation.

Germ cell mutagenicity Product not classified.

**Carcinogenicity** May cause cancer by inhalation.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nickel		Group 1	Known	X
7440-02-0		Group 2B	Reasonably Anticipated	
Cobalt	A3	Group 2A	Known	X
7440-48-4		Group 2B		
Chromium		Group 3		
7440-47-3		•		

**Reproductive toxicity** Possible risk of impaired fertility.

**STOT - single exposure** Product not classified.

**STOT - repeated exposure** Causes disorder and damage to the: Respiratory System.

**Aspiration hazard** Product not classified.

# 12. ECOLOGICAL INFORMATION

# **Ecotoxicity**

This product as shipped is classified for aquatic chronic toxicity. This product as shipped is classified for aquatic acute toxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Nickel 7440-02-0	NOEC/EC10 values range from 12.3 µg/l for Scenedesmus accuminatus to 425 µg/l for Pseudokirchneriella subcapitata.	The 96h LC50s values range from 0.4 mg Ni/L for Pimephales promelas to 320 mg Ni/L for Brachydanio rerio.	The 30 min EC50 of nickel for activated sludge was 33 mg Ni/L.	The 48h LC50s values range from 0.013 mg Ni/L for Ceriodaphnia dubia to 4970 mg Ni/L for Daphnia magna.
Cobalt 7440-48-4	The 72 h EC50 of cobalt dichloride to Pseudokirchneriella subcapitata was 144 ug of Co/L.	The 96h LC50 of cobalt dichloride ranged from 1.5 mg Co/L for Oncorhynchus mykiss to 85 mg Co/L for Danio rerio.	The 3 h EC50 of cobalt dichloride for activated sludge was 120 mg of Co/L.	The 48 h LC50 of cobalt dichloride ranged from 0.61 mg Co/L for Ceriodaphnia dubia tested in soft, DOM-free water to >1800mg Co/L for Tubifex tubifex in very hard water.
Chromium 7440-47-3	-	-	-	-
Iron 7439-89-6	-	The 96 h LC50 of 50% iron oxide black in water to Danio rerio was greater than 10,000 mg/L.	The 3 h EC50 of iron oxide for activated sludge was greater than 10,000 mg/L.	The 48 h EC50 of iron oxide to Daphnia magna was greater than 100 mg/L.
Tungsten 7440-33-7	The 72 h EC50 of sodium tungstate to Pseudokirchnerella subcapitata was 31.0 mg of W/L.	The 96 h LC50 of sodium tungstate to Danio rerio was greater than 106 mg of W/L.	The 30 min EC50 of sodium tungstate for activated sludge were greater than 1000 mg/L.	The 48 h EC50 of sodium tungstate to Daphnia magna was greater than 96 mg of W/L.
Niobium (Columbium) 7440-03-1	-	-	-	-
Molybdenum 7439-98-7	The 72 h EC50 of sodium molybdate dihydrate to Pseudokirchneriella subcapitata was 362.9 mg of Mo/L.	The 96 h LC50 of sodium molybdate dihydrate to Pimephales promelas was 644.2 mg/L	The 3 h EC50 of molybdenum trioxide for activated sludge was 820 mg/L.	The 48 h LC50 of sodium molybdate dihydrate to Ceriodaphnia dubia was 1,015 mg/L.  The 48 h LC50 of sodium molybdate dihydrate to Daphnia magna was greater than 1,727.8 mg/L.
Titanium 7440-32-6	The 72 h EC50 of titanium dioxide to Pseudokirchnerella subcapitata was 61 mg of	The 96 h LC50 of titanium dioxide to Cyprinodon variegatus was greater than 10,000 mg of TiO2/L.	The 3 h EC50 of titanium dioxide for activated sludge were greater than 1000 mg/L.	The 48 h EC50 of titanium dioxide to Daphnia Magna was greater than 1000 mg of TiO2/L.

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	TiO2/L.	The 96 h LC50 of titanium dioxide to Pimephales promelas was greater than 1,000 mg of TiO2/L.		
Tantalum 7440-25-7	-	-	-	-
Aluminum 7429-90-5	The 96-h EC50 values for reduction of biomass of Pseudokirchneriella subcapitata in AAP-Medium at pH 6, 7, and 8 were estimated as 20.1, 5.4, and 150.6 µg/L, respectively, for dissolved AI.	The 96 h LC50 of aluminum to Oncorhynchus mykiss was 7.4 mg of Al/L at pH 6.5 and 14.6 mg of Al/L at pH 7.5	-	The 48-hr LC50 for Ceriodaphnia dubia exposed to Aluminium chloride increased from 0.72 to greater than 99.6 mg/L with water hardness increasing from 25 to 200 mg/L.
Vanadium 7440-62-2	The 72 h EC50 of vanadium pentoxide to Desmodesmus subspicatus was 2,907 ug of V/L.	The 96 h LC50 of vanadium pentoxide to Pimephales promelas was 1,850 ug of V/L.	The 3 h EC50 of sodium metavanadate for activated sludge was greater than 100 mg/L.	The 48 h EC50 of sodium vanadate to Daphnia magna was 2,661 ug of V/L.
Hafnium 7440-58-6	The 72 h EC50 of hafnium to Pseudokirchneriella subcapitata was great than 8 ug of Hf/L (100% saturated solution).	The 96 h LC50 of Hafnium dioxide in water to Danio rerio was greater than the solubility limit of 0.007 mg	-	The 48 h EC50 of Hafnium dioxide to Daphnia magna was greater than the solubility limit of 0.007 mg

#### Other adverse effects

# 13. DISPOSAL CONSIDERATIONS

# Waste treatment methods

**Disposal of wastes**Disposal should be in accordance with applicable regional, national and local laws and

regulations.

Contaminated packaging None anticipated.

Chemical Name	RCRA - D Series Wastes
Chromium	5.0 mg/L regulatory level
7440-47-3	

This product contains one or more substances that are listed with the State of California as a hazardous waste.

# 14. TRANSPORT INFORMATION

**DOT** Not regulated

15. REGU	ILATORY	'INFORMAT	ΓION
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International Inventories

**TSCA** Complies Complies DSL/NDSL Complies **EINECS/ELINCS** Complies **ENCS** Complies **IECSC** Complies **KECL PICCS** Not Listed **AICS** Not Listed

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TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

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**ENCS** - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

#### **US Federal Regulations**

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Nickel - 7440-02-0	7440-02-0	49 - 68	0.1
Cobalt - 7440-48-4	7440-48-4	2.5 - 25	0.1
Chromium - 7440-47-3	7440-47-3	8 - 23	1.0

#### SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

#### **CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nickel 7440-02-0		X	X	
Chromium 7440-47-3		X	Х	

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs
Nickel	100 lb
7440-02-0	
Chromium	5000 lb
7440-47-3	

#### **US State Regulations**

#### **California Proposition 65**

This product contains the Proposition 65 chemicals listed below. Proposition 65 warning label available at ATImetals.com.

Chemical Name	California Proposition 65	
Nickel - 7440-02-0	Carcinogen	
Cobalt - 7440-48-4	Carcinogen	

# U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Nickel	X	X	Х
7440-02-0			
Cobalt	X	X	X
7440-48-4			
Chromium	X	X	X
7440-47-3			
Tungsten	X	X	X
7440-33-7			

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Molybdenum 7439-98-7	X	X	X
Titanium 7440-32-6	X		
Tantalum 7440-25-7	X	X	X
Aluminum 7429-90-5	X	X	X
Vanadium 7440-62-2	Х	X	X
Hafnium 7440-58-6	Х	X	X

#### U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

# **16. OTHER INFORMATION**

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical

Properties -

HMIS Health hazards 2\* Flammability 0 Physical hazards 0 Personal protection X

Chronic Hazard Star Legend \*= Chronic Health Hazard

 Issue Date
 28-May-2015

 Revision Date
 24-Jan-2020

**Revision Note** 

SDS sections updated: 1, 2, 3, 4, 5, 9, 12

Note:

The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet Safety data sheets and labels available at ATImetals.com

Additional information available

from:

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