

# SAFETY DATA SHEET



MAR-M-247 POWDER

## Section 1. Identification

**GHS product identifier** : MAR-M-247 products  
**Product code** : MAR-M-247

**Product type** : Powder.

### Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

**Supplier's details** : Aimtek, Inc.  
201 Washington Street  
Auburn, MA 01501  
USA  
508-832-5035

**Emergency telephone number** : Chemtrec: 1-800-424-9300

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : COMBUSTIBLE DUSTS  
CARCINOGENICITY - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 97%  
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 97%  
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 97%

### GHS label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : May form combustible dust concentrations in air.  
Suspected of causing cancer.

### Precautionary statements

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

**Response** : IF exposed or concerned: Get medical attention.

**Storage** : Store locked up.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

- Supplemental label elements** : Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Product code** : MAR-M-247

Ingredient name	%	CAS number
Nickel	≥50 - ≤75	7440-02-0
tungsten	<10	7440-33-7
cobalt	≤10	7440-48-4
chromium	≤10	7440-47-3
Aluminium powder (stabilized)	≤10	7429-90-5
tantalum	≤5	7440-25-7
hafnium	≤3	7440-58-6
titanium	≤3	7440-32-6
boron	≤1	7440-42-8
carbon	≤1	7440-44-0
molybdenum	≤1	7439-98-7
Zirconium	≤1	7440-67-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing

## Section 4. First aid measures

such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical powder.
- Unsuitable extinguishing media** : Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

**Specific hazards arising from the chemical** : May form explosible dust-air mixture if dispersed.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### [Control parameters](#)

#### [Occupational exposure limits](#)

Ingredient name	Exposure limits
Nickel	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m<sup>3</sup>, (as Ni) 8 hours.</p> <p><b>NIOSH REL (United States, 10/2013).</b> TWA: 0.015 mg/m<sup>3</sup>, (as Ni) 10 hours.</p> <p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 1.5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 1 mg/m<sup>3</sup>, (as Ni) 8 hours.</p>
tungsten	<p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 5 mg/m<sup>3</sup>, (as W) 8 hours. STEL: 10 mg/m<sup>3</sup>, (as W) 15 minutes.</p> <p><b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m<sup>3</sup>, (as W) 10 hours. STEL: 10 mg/m<sup>3</sup>, (as W) 15 minutes.</p>
cobalt	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> <b>Notes: as Co</b> TWA: 0.05 mg/m<sup>3</sup>, (as Co) 8 hours.</p> <p><b>OSHA PEL (United States, 6/2016). Notes: as Co</b> TWA: 0.1 mg/m<sup>3</sup>, (as Co) 8 hours.</p> <p><b>NIOSH REL (United States, 10/2013). Notes: as Co</b> TWA: 0.05 mg/m<sup>3</sup>, (as Co) 10 hours. Form: Dust and fumes</p> <p><b>ACGIH TLV (United States, 3/2016). Notes: as Co</b> TWA: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours. Form: Inorganic</p> <p><b>ACGIH TLV (United States, 3/2016).</b> <b>Inhalation sensitizer.</b> TWA: 0.005 mg/m<sup>3</sup> 8 hours. Form: Thoracic fraction</p>
chromium	<p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 0.5 mg/m<sup>3</sup>, (measured as Cr) 8 hours.</p> <p><b>NIOSH REL (United States, 10/2013).</b> TWA: 0.5 mg/m<sup>3</sup> 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m<sup>3</sup> 8 hours.</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 1 mg/m<sup>3</sup>, (as Cr) 8 hours.</p>
Aluminium powder (stabilized)	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 15 mg/m<sup>3</sup>, (as Al) 8 hours. Form: Dust TWA: 5 mg/m<sup>3</sup>, (as Al) 8 hours. Form: Pyrophoric TWA: 5 mg/m<sup>3</sup>, (as Al) 8 hours. Form: Respirable fraction TWA: 5 mg/m<sup>3</sup>, (as Al) 8 hours. Form: Welding fume</p> <p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 1 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction</p> <p><b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 10 hours. Form: Total</p> <p><b>OSHA PEL (United States, 6/2016).</b></p>

## Section 8. Exposure controls/personal protection

	<p>TWA: 5 mg/m<sup>3</sup>, (as Al) 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup>, (as Al) 8 hours. Form: Total dust</p>
tantalum	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Dust <b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m<sup>3</sup>, (as Ta) 10 hours. Form: METAL AND OXIDE DUST STEL: 10 mg/m<sup>3</sup>, (as Ta) 15 minutes. Form: METAL AND OXIDE DUST</p>
hafnium	<p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 0.5 mg/m<sup>3</sup>, (measured as hafnium) 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 0.5 mg/m<sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b> TWA: 0.5 mg/m<sup>3</sup>, (as Hf) 10 hours. <b>OSHA PEL (United States, 6/2016).</b> TWA: 0.5 mg/m<sup>3</sup> 8 hours.</p>
titanium boron carbon molybdenum	<p>None. None. None.</p>
Zirconium	<p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 10 mg/m<sup>3</sup>, (as Mo) 8 hours. Form: Inhalable fraction TWA: 3 mg/m<sup>3</sup>, (as Mo) 8 hours. Form: Respirable fraction <b>ACGIH TLV (United States, 3/2016).</b> TWA: 5 mg/m<sup>3</sup>, (as Zr) 8 hours. STEL: 10 mg/m<sup>3</sup>, (as Zr) 15 minutes. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 150 µg/m<sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m<sup>3</sup>, (as Zr) 10 hours. STEL: 10 mg/m<sup>3</sup>, (as Zr) 15 minutes.</p>

### Appropriate engineering controls

- : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Solid. [Powder.]
- Color** : Gray.
- Odor** : Odorless
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : 1455 to 3410°C (2651 to 6170°F)
- Boiling point** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Flow time (ISO 2431)** : Not available.
- VOC content** : 0 lbs/gal (0 g/l)
- Not available.
- Not available.
- Not available.



## Section 9. Physical and chemical properties

Not available.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
- Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
tungsten	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Classification

Product/ingredient name	OSHA	IARC	NTP
Nickel	-	2B	Reasonably anticipated to be a human carcinogen.
cobalt	-	2B	
chromium	-	3	

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.



## Section 11. Toxicological information

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

- General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Nickel	Acute EC50 2 ppm Marine water	Algae - <i>Macrocystis pyrifera</i> - Young	4 days
	Acute EC50 450 µg/l Fresh water	Aquatic plants - <i>Lemna minor</i>	4 days
	Acute EC50 1000 µg/l Marine water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute IC50 0.31 mg/l Marine water	Crustaceans - <i>Americamysis bahia</i> - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
chromium	Acute LC50 47.5 ng/L Fresh water	Fish - <i>Heteropneustes fossilis</i>	96 hours
	Chronic NOEC 100 mg/l Marine water	Algae - <i>Glenodinium halli</i>	72 hours
	Chronic NOEC 3.5 µg/l Fresh water	Fish - <i>Cyprinus carpio</i>	4 weeks
	Acute EC50 0.2 ppm Marine water	Algae - <i>Bacillariophyta</i>	72 hours
Aluminium powder (stabilized)	Acute EC50 5 ppm Marine water	Algae - <i>Macrocystis pyrifera</i> - Young	4 days
	Acute EC50 35000 µg/l Fresh water	Aquatic plants - <i>Lemna minor</i>	4 days
	Acute LC50 45 µg/l Fresh water	Crustaceans - <i>Ceriodaphnia reticulata</i>	48 hours
	Acute LC50 22 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
molybdenum	Acute LC50 13.9 ppm Fresh water	Fish - <i>Anguilla rostrata</i>	96 hours
	Chronic NOEC 50 mg/l Marine water	Algae - <i>Glenodinium halli</i>	72 hours
	Chronic NOEC 0.19 µg/l Fresh water	Fish - <i>Cyprinus carpio</i>	4 weeks
	Acute LC50 38000 µg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 120 µg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i> - Embryo	96 hours
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - <i>Ceratophyllum demersum</i>	3 days
	Acute LC50 >200000 µg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 800 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Chronic NOEC 500 mg/l Marine water	Algae - <i>Glenodinium halli</i>	72 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
cobalt	-	15600	high

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	<b>Reportable quantity</b> 111. 11 lbs / 50.444 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	-	-	-	-	-

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 8(a) PAIR: tungsten  
TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
United States inventory (TSCA 8b): All components are listed or exempted.  
Clean Water Act (CWA) 307: Nickel; chromium

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

## Section 15. Regulatory information

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Fire hazard  
Delayed (chronic) health hazard

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Nickel	≥50 - ≤75	No.	No.	No.	No.	Yes.
tungsten	<10	No.	No.	No.	Yes.	No.
cobalt	≤10	No.	No.	No.	No.	Yes.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Nickel	7440-02-0	≥50 - ≤75
	cobalt	7440-48-4	≤10
	chromium	7440-47-3	≤10
	Aluminium powder (stabilized)	7429-90-5	≤10
<b>Supplier notification</b>	Nickel	7440-02-0	≥50 - ≤75
	cobalt	7440-48-4	≤10
	chromium	7440-47-3	≤10
	Aluminium powder (stabilized)	7429-90-5	≤10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: NICKEL; NICKEL CATALYST; TUNGSTEN; COBALT; CHROMIUM; ALUMINUM; TANTALUM; HAFNIUM

**New York** : The following components are listed: Nickel; Chromium

**New Jersey** : The following components are listed: NICKEL; TUNGSTEN; COBALT; CHROMIUM; ALUMINUM; TANTALUM; HAFNIUM; TITANIUM

**Pennsylvania** : The following components are listed: NICKEL CATALYST; TUNGSTEN; COBALT FUME; CHROMIUM COMPOUNDS; ALUMINUM; TANTALUM; HAFNIUM

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Nickel	Yes.	No.	-	-
cobalt	Yes.	No.	-	-

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

## Section 15. Regulatory information

### [Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

### [Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

### [UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

### [International lists](#)

#### [National inventory](#)

<b>Australia</b>	: Not determined.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: Not determined.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Turkey</b>	: Not determined.

## Section 16. Other information

### [Procedure used to derive the classification](#)

Classification	Justification
COMBUSTIBLE DUSTS CARCINOGENICITY - Category 2	On basis of test data Calculation method

### [History](#)

<b>Date of printing</b>	: 4/26/2018
<b>Date of issue/Date of revision</b>	: 4/26/2018

<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
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<b>References</b>	: Not available.
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### [Notice to reader](#)

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.