

Tool Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).
Date of Issue: 01/29/2018 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Tool Steel

Product Code: D2; H11; H13; LTS11; M2; M3/2; M35; M4; M42; T-15

1.2. Intended Use of the Product

Tool making

1.3. Name, Address, and Telephone of the Responsible Party

Manufacturer

Ametek Specialty Metal

1085 Rte 519

Eighty Four, PA 15330

1-724-225-8400 (Non-Emergency)

1-703-527-3887 (Emergency)

www.ametek.com

SDS@CHEMTREC.com

1.4. Emergency Telephone Number

Emergency Number : 800-424-9300 CHEMTREC US / 001-703-527-3887 CHEMTREC Intl.

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/CA Classification

Resp. Sens. 1B H334

Skin Sens. 1 H317

Carc. 1 H350

Repr. 2 H361

Aquatic Acute 2 H401

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



GHS08

Signal Word (GHS-US/CA) :

Danger

Hazard Statements (GHS-US/CA) :

H317 - May cause an allergic skin reaction.
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H401 - Toxic to aquatic life.

Precautionary Statements (GHS-US/CA) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing vapors, mist, or spray.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.

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P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see section 4 on this SDS).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Iron	(CAS-No.) 7439-89-6	70 - 92	Comb. Dust
Chromium	(CAS-No.) 7440-47-3	3.6 - 13	Comb. Dust
Tungsten	(CAS-No.) 7440-33-7	0.1 - 13	Flam. Sol. 1, H228 Self-heat. 2, H252 Comb. Dust
Molybdenum	(CAS-No.) 7439-98-7	0.1 - 6.5	Comb. Dust
Vanadium	(CAS-No.) 7440-62-2	0.3 - 6.2	Comb. Dust
Cobalt	(CAS-No.) 7440-48-4	0.1 - 5.25	Flam. Sol. 2, H228 Eye Irrit. 2A, H319 Resp. Sens. 1B, H334 Skin Sens. 1, H317 Carc. 1B, H350 Repr. 2, H361 Aquatic Chronic 4, H413 Comb. Dust
Carbon	(CAS-No.) 7440-44-0	0.3 - 3.7	Comb. Dust
Niobium	(CAS-No.) 7440-03-1	0.1 - 1	Comb. Dust Flam. Sol. 1, H228
Nickel	(CAS-No.) 7440-02-0	0.1 - 0.7	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 Comb. Dust
Silicon	(CAS-No.) 7440-21-3	0.1 - 0.7	Comb. Dust
Manganese	(CAS-No.) 7439-96-5	0.1 - 0.5	Comb. Dust
Phosphorus elemental	(CAS-No.) 7723-14-0	< 0.045	Pyr. Sol. 1, H250 Acute Tox. 1 (Oral), H300 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400

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			Aquatic Chronic 3, H412
Sulfur	(CAS-No.) 7704-34-9	< 0.04	Skin Irrit. 2, H315 Aquatic Acute 3, H402 Comb. Dust

Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Get immediate medical advice/attention. When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Brush off loose particles from skin. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If exposed or concerned: Get medical advice/attention. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation/rash develops or persists.

Eye Contact: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for at least 15 minutes. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: May cause sensitization by inhalation and by skin contact. Suspected of damaging fertility or the unborn child.

Inhalation: Inhalation of vapors and fumes may cause respiratory irritation and sensitization. Exposure may produce cough, mucous secretions, shortness of breath, chest tightness or other symptoms indicative of an allergic/sensitization reaction.

Skin Contact: May cause skin irritation and sensitization. May cause an allergic skin reaction.

Eye Contact: Eye contact with large amounts of dust may cause mechanical irritation. May cause slight irritation to eyes.

Ingestion: Ingestion of the dusts of this product may cause irritation of the mucus membranes. Ingestion may cause adverse effects.

Chronic Symptoms: Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Molybdenum: Chronic exposure to molybdenum compounds is suspected of causing cancer. Compounds are also known to cause irritation to the skin, eyes, and respiratory tract. Vanadium: May cause gastrointestinal discomfort, renal damage, nervous system depression and irritation of the respiratory passages. May also cause cardiac palpitations and asthma. Nickel metal powder, when respirable, is a suspected human carcinogen, and is known to cause damage to the lungs through inhalation. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Chronic exposure to excessive manganese levels can lead to a variety of psychiatric and motor disturbances, termed manganism. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. . Repeated inhalation of iron oxide dust can cause siderosis a benign condition.

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

If medical advice is needed, have product container or label at hand. If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Does not burn. Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand. Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

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5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: 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. Not considered flammable but may burn at high temperatures.

Explosion Hazard: Combustible dust. Product is not explosive.

Reactivity: Product itself is not explosive but if dust is generated, dust clouds suspended in air can be explosive. Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Metal oxides.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing. Do not breathe dust.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Use explosion proof vacuum during cleanup, with appropriate filter. Do not mix with other materials. Avoid generation of dust during clean-up of spills. Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Minimize generation of dust. Store away from other materials. Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Accumulation and dispersion of dust with an ignition source can cause a combustible dust explosion. Keep dust levels to a minimum and follow applicable regulations. 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. Good housekeeping is needed during storage, transfer, handling, and use of this material to avoid excessive dust accumulation.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do NOT breathe (dust, vapor, mist, gas).

Hygiene Measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly after handling. Handle in accordance with good industrial hygiene and safety procedures.

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7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Protect from moisture. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Incompatible with carbonates, strong bases, mineral acids, lithium, sulfur dioxide, strong acids. Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Tool making

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Carbon (7440-44-0)		
Mexico	OEL TWA (mg/m ³)	2 mg/m ³ (dust)
Manganese (7439-96-5)		
Mexico	OEL TWA (mg/m ³)	0.2 mg/m ³ 1 mg/m ³ (fume)
Mexico	OEL STEL (mg/m ³)	3 mg/m ³ (fume)
USA ACGIH	ACGIH TWA (mg/m ³)	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	5 mg/m ³ (fume)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³ (fume)
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	3 mg/m ³
USA IDLH	US IDLH (mg/m ³)	500 mg/m ³
Alberta	OEL TWA (mg/m ³)	0.2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	0.2 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m ³)	0.6 mg/m ³
Nunavut	OEL TWA (mg/m ³)	0.2 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	0.6 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	0.2 mg/m ³
Ontario	OEL TWA (mg/m ³)	0.2 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
Québec	VEMP (mg/m ³)	0.2 mg/m ³ (total dust and fume)
Saskatchewan	OEL STEL (mg/m ³)	0.6 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	0.2 mg/m ³
Yukon	OEL Ceiling (mg/m ³)	5 mg/m ³
Nickel (7440-02-0)		
Mexico	OEL TWA (mg/m ³)	1 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Suspected as a Human Carcinogen

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USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.015 mg/m ³
USA IDLH	US IDLH (mg/m ³)	10 mg/m ³
Alberta	OEL TWA (mg/m ³)	1.5 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.05 mg/m ³
Manitoba	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	1 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m ³)	3 mg/m ³ (inhalable fraction)
Nunavut	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
Northwest Territories	OEL STEL (mg/m ³)	3 mg/m ³ (inhalable fraction)
Northwest Territories	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
Ontario	OEL TWA (mg/m ³)	1 mg/m ³ (inhalable)
Prince Edward Island	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
Québec	VEMP (mg/m ³)	1 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	3 mg/m ³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
Yukon	OEL STEL (mg/m ³)	3 mg/m ³
Yukon	OEL TWA (mg/m ³)	1 mg/m ³
Cobalt (7440-48-4)		
Mexico	OEL TWA (mg/m ³)	0.1 mg/m ³ (dust and fume)
USA ACGIH	ACGIH TWA (mg/m ³)	0.02 mg/m ³
USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA ACGIH	Biological Exposure Indices (BEI)	15 µg/l Parameter: Cobalt - Medium: urine - Sampling time: end of shift at end of workweek (nonspecific)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (dust and fume)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (dust and fume)
USA IDLH	US IDLH (mg/m ³)	20 mg/m ³ (dust and fume)
Alberta	OEL TWA (mg/m ³)	0.02 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.02 mg/m ³
Manitoba	OEL TWA (mg/m ³)	0.02 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	0.02 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.02 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	0.02 mg/m ³
Nunavut	OEL STEL (mg/m ³)	0.06 mg/m ³
Nunavut	OEL TWA (mg/m ³)	0.02 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	0.06 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	0.02 mg/m ³
Ontario	OEL TWA (mg/m ³)	0.02 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	0.02 mg/m ³
Québec	VEMP (mg/m ³)	0.02 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	0.06 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	0.02 mg/m ³
Yukon	OEL STEL (mg/m ³)	0.15 mg/m ³ (dust and fume)
Yukon	OEL TWA (mg/m ³)	0.05 mg/m ³ (dust and fume)
Chromium (7440-47-3)		
Mexico	OEL TWA (mg/m ³)	0.5 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	0.5 mg/m ³
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

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USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.5 mg/m ³
USA IDLH	US IDLH (mg/m ³)	250 mg/m ³
Alberta	OEL TWA (mg/m ³)	0.5 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.5 mg/m ³
Manitoba	OEL TWA (mg/m ³)	0.5 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	0.5 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.5 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	0.5 mg/m ³
Nunavut	OEL STEL (mg/m ³)	1.5 mg/m ³ (metal)
Nunavut	OEL TWA (mg/m ³)	0.5 mg/m ³ (metal)
Northwest Territories	OEL STEL (mg/m ³)	1.5 mg/m ³ (metal)
Northwest Territories	OEL TWA (mg/m ³)	0.5 mg/m ³ (metal)
Ontario	OEL TWA (mg/m ³)	0.5 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	0.5 mg/m ³
Québec	VEMP (mg/m ³)	0.5 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	1.5 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	0.5 mg/m ³
Yukon	OEL STEL (mg/m ³)	3 mg/m ³
Yukon	OEL TWA (mg/m ³)	0.1 mg/m ³
Molybdenum (7439-98-7)		
	Internal TWA (mg/m ³)	5 mg/m ³ (Molybdenum (as Mo), Soluble Compounds)
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter) 3 mg/m ³ (respirable particulate matter)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ (Molybdenum (as Mo), Soluble Compounds) 15 mg/m ³ (Molybdenum (as Mo), Insoluble Compounds) (Total dust)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³ (Molybdenum (as Mo), Soluble Compounds)
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (total) 3 mg/m ³ (respirable)
British Columbia	OEL TWA (mg/m ³)	3 mg/m ³ (respirable) 10 mg/m ³ (inhalable)
Manitoba	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter) 10 mg/m ³ (inhalable particulate matter)
Newfoundland & Labrador	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter) 10 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter) 10 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³ (metal-inhalable fraction) 6 mg/m ³ (metal-respirable fraction)
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (metal-inhalable fraction) 3 mg/m ³ (metal-respirable fraction)
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³ (metal-inhalable fraction) 6 mg/m ³ (metal-respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (metal-inhalable fraction) 3 mg/m ³ (metal-respirable fraction)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³ (metal-inhalable) 3 mg/m ³ (metal-respirable)
Prince Edward Island	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter) 10 mg/m ³ (inhalable particulate matter)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction) 6 mg/m ³ (respirable fraction)

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Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction)
Silicon (7440-21-3)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Mexico	OEL STEL (mg/m ³)	20 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³
Sulfur (7704-34-9)		
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
Phosphorus elemental (7723-14-0)		
Alberta	OEL TWA (mg/m ³)	0.1 mg/m ³ (yellow)
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³ (yellow)
New Brunswick	OEL TWA (ppm)	0.02 ppm (yellow)
Québec	VEMP (mg/m ³)	0.1 mg/m ³ (yellow)
Vanadium (7440-62-2)		
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.5 mg/m ³ (respirable dust) 0.1 mg/m ³ (fume)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	3 mg/m ³
Tungsten (7440-33-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	10 mg/m ³
Alberta	OEL STEL (mg/m ³)	10 mg/m ³
Alberta	OEL TWA (mg/m ³)	5 mg/m ³
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	5 mg/m ³
Manitoba	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter)
Newfoundland & Labrador	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter)
Nunavut	OEL STEL (mg/m ³)	10 mg/m ³
Nunavut	OEL TWA (mg/m ³)	5 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	10 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	5 mg/m ³
Ontario	OEL STEL (mg/m ³)	10 mg/m ³

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Ontario	OEL TWA (mg/m ³)	5 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter)
Saskatchewan	OEL STEL (mg/m ³)	10 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	5 mg/m ³
Yukon	OEL STEL (mg/m ³)	10 mg/m ³
Yukon	OEL TWA (mg/m ³)	5 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e, there is no leakage from the equipment). . It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure adequate ventilation, especially in confined areas. Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles. Dust formation: dust mask. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: protective gloves. Wear protective gloves.

Eye and Face Protection: Chemical goggles or safety glasses. Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Thermal Hazard Protection: If material is hot, wear thermally resistant protective gloves.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Fine gray powder
Odor	: Not available
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: Not available
Density	: 7.5 - 9.3
Specific Gravity	: Not available

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Solubility	: Insoluble.
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
VOC content	: 0 %

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Product itself is not explosive but if dust is generated, dust clouds suspended in air can be explosive. Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Stable under normal conditions. 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. Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Exposure to moisture or moist air. Avoid formation of dust. Direct sunlight. Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials: Incompatible with carbonates, strong bases, mineral acids, lithium, sulfur dioxide, strong acids. Strong acids, strong bases, strong oxidizers.

10.6. Hazardous Decomposition Products: Thermal decomposition generates : Metal oxides. fume. Carbon monoxide. Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of vapors and fumes may cause respiratory irritation and sensitization. Exposure may produce cough, mucous secretions, shortness of breath, chest tightness or other symptoms indicative of an allergic/sensitization reaction.

Symptoms/Injuries After Skin Contact: May cause skin irritation and sensitization. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Eye contact with large amounts of dust may cause mechanical irritation. May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Ingestion of the dusts of this product may cause irritation of the mucus membranes. Ingestion may cause adverse effects.

Chronic Symptoms: Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Molybdenum: Chronic exposure to molybdenum compounds is suspected of causing cancer. Compounds are also known to cause irritation to the skin, eyes, and respiratory tract. Vanadium: May cause gastrointestinal discomfort, renal damage, nervous system depression and irritation of the respiratory passages. May also cause cardiac palpitations and asthma. Nickel metal powder, when respirable, is a suspected human carcinogen, and is known to cause damage to the lungs through inhalation. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the

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nasal cavity, lung and possibly larynx in nickel refinery workers. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Chronic exposure to excessive manganese levels can lead to a variety of psychiatric and motor disturbances, termed manganism. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. . Repeated inhalation of iron oxide dust can cause siderosis a benign condition.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Carbon (7440-44-0)	
LD50 Oral Rat	> 10000 mg/kg
Manganese (7439-96-5)	
LD50 Oral Rat	> 2000 mg/kg
LC50 Inhalation Rat	> 5.14 mg/l/4h
Nickel (7440-02-0)	
LD50 Oral Rat	> 9000 mg/kg
Cobalt (7440-48-4)	
LD50 Oral Rat	6171 mg/kg
LC50 Inhalation Rat	> 10 mg/l (Exposure time: 1 h)
Chromium (7440-47-3)	
LD50 Oral Rat	> 5000 mg/kg
LC50 Inhalation Rat	> 5.41 mg/l/4h
Iron (7439-89-6)	
LD50 Oral Rat	98.6 g/kg
ATE US/CA (oral)	98,600.00 mg/kg body weight
Molybdenum (7439-98-7)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	> 3.92 mg/l/4h
Silicon (7440-21-3)	
LD50 Oral Rat	3160 mg/kg
Sulfur (7704-34-9)	
LD50 Oral Rat	> 3000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 9.23 mg/l/4h
Phosphorus elemental (7723-14-0)	
LD50 Oral Rat	3030 µg/kg
LD50 Dermal Rat	100 mg/kg
LC50 Inhalation Rat	4.3 mg/l (Exposure time: 1 h)
ATE US/CA (oral)	3.03 mg/kg body weight
ATE US/CA (vapors)	4.30 mg/l/4h
ATE US/CA (dust, mist)	0.05 mg/l/4h
Vanadium (7440-62-2)	
LD50 Oral Rat	> 2000 mg/kg
Niobium (7440-03-1)	
LD50 Oral Rat	> 10 g/kg
Nickel (7440-02-0)	
IARC Group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Cobalt (7440-48-4)	
IARC Group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity, Reasonably anticipated to be Human

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	Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Chromium (7440-47-3)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Toxic to aquatic life.

Manganese (7439-96-5)	
NOEC Chronic Fish	3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss)
Nickel (7440-02-0)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	121.6 µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static])
LC50 Fish 2	15.3 mg/l
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])
Cobalt (7440-48-4)	
LC50 Fish 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
Sulfur (7704-34-9)	
LC50 Fish 1	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	736 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Phosphorus elemental (7723-14-0)	
LC50 Fish 1	33.2 mg/l Red Phosphorous (Exposure time: 96 h - Species Danio rerio [static])
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	0.001 - 0.004 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	0.025 - 0.037 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and Degradability

Tool Steel	
Persistence and Degradability	May cause long-term adverse effects in the environment. Not established.

12.3. Bioaccumulative Potential

Tool Steel	
Bioaccumulative Potential	Not established.
Cobalt (7440-48-4)	
BCF Fish 1	(no bioaccumulation)
Phosphorus elemental (7723-14-0)	
BCF Fish 1	< 200

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations, Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

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SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

This material is not hazardous as defined by the U.S. Department of Transportation 49CFR.

14.2. In Accordance with IMDG

NOT REGULATED AS DANGEROUS GOODS

14.3. In Accordance with IATA

NOT REGULATED AS DANGEROUS GOODS

14.4. In Accordance with TDG

NOT REGULATED AS DANGEROUS GOODS

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Tool Steel	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard Fire hazard
Carbon (7440-44-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Manganese (7439-96-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %
Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	100 lb (only applicable if particles are < 100 µm)
SARA Section 313 - Emission Reporting	0.1 %
Cobalt (7440-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

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Chromium (7440-47-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
SARA Section 313 - Emission Reporting	1 %
Iron (7439-89-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Molybdenum (7439-98-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Silicon (7440-21-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Sulfur (7704-34-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Phosphorus elemental (7723-14-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb (this material is a reactive solid, the TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)
SARA Section 313 - Emission Reporting	1 % (yellow or white)
Vanadium (7440-62-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 % (except when contained in an alloy)
Niobium (7440-03-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Tungsten (7440-33-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State Regulations

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.
Cobalt (7440-48-4)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

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) - Environmental Hazard 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) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List	

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Cobalt (7440-48-4)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard 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) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances 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
Silicon (7440-21-3)
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
Sulfur (7704-34-9)
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
Phosphorus elemental (7723-14-0)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard 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) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Tungsten (7440-33-7)
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

15.3. Canadian Regulations

Carbon (7440-44-0)
Listed on the Canadian DSL (Domestic Substances List)
Manganese (7439-96-5)
Listed on the Canadian DSL (Domestic Substances List)
Nickel (7440-02-0)
Listed on the Canadian DSL (Domestic Substances List)
Cobalt (7440-48-4)
Listed on the Canadian DSL (Domestic Substances List)
Chromium (7440-47-3)
Listed on the Canadian DSL (Domestic Substances List)
Iron (7439-89-6)
Listed on the Canadian DSL (Domestic Substances List)

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Molybdenum (7439-98-7)
Listed on the Canadian DSL (Domestic Substances List)
Silicon (7440-21-3)
Listed on the Canadian DSL (Domestic Substances List)
Sulfur (7704-34-9)
Listed on the Canadian DSL (Domestic Substances List)
Phosphorus elemental (7723-14-0)
Listed on the Canadian DSL (Domestic Substances List)
Vanadium (7440-62-2)
Listed on the Canadian DSL (Domestic Substances List)
Niobium (7440-03-1)
Listed on the Canadian DSL (Domestic Substances List)
Tungsten (7440-33-7)
Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 01/29/2018

Revision

Data Sources : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

Other Information : Not applicable

GHS Full Text Phrases:

Acute Tox. 1 (Oral)	Acute toxicity (oral) Category 1
Acute Tox. 2 (Dermal)	Acute toxicity (dermal) Category 2
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment - Chronic Hazard Category 4
Carc. 1	Carcinogenicity, Category 1
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Sol. 1	Flammable solids Category 1
Flam. Sol. 2	Flammable solids Category 2
Pyr. Sol. 1	Pyrophoric solids Category 1
Repr. 2	Reproductive toxicity Category 2
Resp. Sens. 1B	Respiratory sensitization, Category 1B
Self-heat. 2	Self-heating substances and mixtures Category 2
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H228	Flammable solid

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H250	Catches fire spontaneously if exposed to air
H252	Self-heating in large quantities; may catch fire
H300	Fatal if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

The above information is believed to be accurate based on the most current data available. Ametek makes no warranty, either expressed or implied, with respect to such information, and assumes no liability resulting from its use. Users are advised to conduct their own test to determine the safety and suitability of each product or product combination for their own purposes. Ametek shall not be liable for claims, losses or damages of any third party or for lost profits or incidental or consequential damages.

NA GHS SDS 2015 (Can, US, Mex)