

**Section 1 - Product and Company Identification**

<b>Material Name</b>	<ul style="list-style-type: none"><li>▪ <b>Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades)</b></li></ul>
<b>CAS Number</b>	<ul style="list-style-type: none"><li>▪ 7440-02-0</li></ul>
<b>EINECS</b>	<ul style="list-style-type: none"><li>▪ 231-111-4</li></ul>
<b>EU Number</b>	<ul style="list-style-type: none"><li>▪ 028-002-01-4</li></ul>
<b>Molecular Formula</b>	<ul style="list-style-type: none"><li>▪ Ni</li></ul>
<b>Product Description</b>	<ul style="list-style-type: none"><li>▪ Silvery solid (flake), odorless.</li></ul>
<b>Product Use</b>	<ul style="list-style-type: none"><li>▪ Cookware Coatings. In PTFE (Teflon) nickel flake provides a metallic appearance while promoting heat transfer and abrasion resistance. Hard Metal Binder. The leafing grades are used as additives to Tungsten Carbides(WC). The platelet shape and thin stearic acid coating on the flake promotes encapsulation of the WC powder and, in turn, a uniform dispersion of the nickel binder throughout the matrix. High temperature anti-seize lubricants. A special grade, Type CHT, is available for extremely high temperature and corrosive environments such as oil well drilling. Powder Coatings. Architectural coatings requiring long-term stability, Automotive trim, wheels and under the-hood parts, office and outdoor furniture, bicycles. Printing Inks. An extra fine pigment grade provides a magnetic signature in security inks. Water -borne coatings. Nickel is inert in water-based paints and, unlike aluminum and other pigments, will not form hydrogen gas. This eliminates problems with popping of can lids.</li></ul>
<b>Manufacturer</b>	<ul style="list-style-type: none"><li>▪ Novamet Specialty Products Corporation 681 Lawlins Road Wyckoff, NJ 07481 United States</li></ul>
<b>Telephone</b>	
<b>General</b>	<ul style="list-style-type: none"><li>▪ 201-891-7676</li></ul>
<b><u>Emergency</u></b>	<ul style="list-style-type: none"><li>▪ 800-424-9300 - CHEMTREC</li></ul>
<b>Preparation Date</b>	<ul style="list-style-type: none"><li>▪ 3/8/2011</li></ul>
<b>Last Revision Date</b>	<ul style="list-style-type: none"><li>▪ 3/8/2011</li></ul>

**Section 2 - Hazards Identification**

**Emergency Overview**

**DANGER**

Harmful to aquatic life with long lasting effects. Causes damage to organs - Lungs through prolonged or repeated exposure via Inhalation. May cause an allergic skin reaction. Suspected of causing cancer via Inhalation.

**Prevention** Do not handle until all safety precautions have been read and understood. Do not breathe dusts or mists. Avoid release to the environment. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Contaminated work clothing should not be allowed out of the workplace. Use personal protective equipment as required. Wear protective gloves, clothing, and eye/face protection. Wash thoroughly after handling.

**Response**

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Get medical advice/attention if you feel unwell. Specific treatment, see supplemental first aid information.

**Storage/Disposal**

Store locked up. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.



*May form combustible dust concentrations in air (during processing).*

**Physical Form**

**Color**

**Odor**

**OSHA**

**WHMIS**

- Solid
- Silvery
- Odorless
- Carcinogen
- Class D - Poisonous and Infectious Materials - Division 2 - Subdivision A, Class D - Poisonous and Infectious Materials - Division 2 - Subdivision B



**EU**

- Toxic - T, Sensitizer - , Carcinogenic Substances - Category 3 - Carc.Cat.3 R52/53, R40, R43, R48/23



**GHS**

- Chronic Hazards to the aquatic environment - Category 3, Specific Target Organ Toxicity Repeated Exposure - Category 1, Skin Sensitizer - Category 1, Carcinogenicity - Category 2

**Route Of Entry**

**Target Organs**

**Medical Conditions**

**Aggravated by Exposure**

- Inhalation, Skin, Eye
- Lungs
- Disorders of the lungs, Skin

**NFPA:**



**Potential Health Effects**

**Inhalation**

**Acute (Immediate)**

**Chronic (Delayed)**

- Exposure to dust may cause irritation.
- Repeated and prolonged inhalation of nickel particles may cause chronic lung inflammation and lung fibrosis.

**Skin**

**Acute (Immediate)**

- Exposure to dust may cause mechanical irritation. May cause skin sensitization.

- Chronic (Delayed)**
- Symptoms include redness, and skin rash.
  - Repeated and prolonged exposure to nickel can cause a type of dermatitis specifically referred to as "nickel" itch.

**Eye**

- Acute (Immediate)**
- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

- Chronic (Delayed)**
- No data available.

**Ingestion**

- Acute (Immediate)**
- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

- Chronic (Delayed)**
- No data available.

**Carcinogenic Effects**

- The International Agency for Research on Cancer (IARC) found there was inadequate evidence that metallic nickel is carcinogenic to humans but since there was sufficient evidence that it is carcinogenic to animals, IARC concluded that metallic nickel is possibly carcinogenic to humans. Epidemiological studies of workers exposed to nickel powder and to dust and fume generated in the production of nickel alloys and of stainless steel have not indicated the presence of a significant respiratory cancer hazard. The inhalation of nickel powder has not resulted in an increased incidence of malignant lung tumours in rodents.

Carcinogenic Effects			
	CAS	IARC	NTP
Nickel	7440-02-0	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen

- Potential Environmental Effects**
- May cause long lasting harmful effects to aquatic life.

See Section 12 for Ecological Information.

**Section 3 - Composition/Information on Ingredients**

Hazardous Components						
Chemical Name	CAS	%(weight)	UN;EINECS	LD50/LC50	EU Classification & R Phrases	Other
Nickel	7440-02-0	99.8% TO 100%	231-111-4	NDA	Carc.Cat.3; R40 R43 T; R48/23	Carc. 2; STOT RE 1; Skin Sens. 1; Aquatic Chronic 3;

Under United States Regulations (29 CFR 1900.1200 - Hazard Communication Standard), this product is considered hazardous. In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS). According to European Directive 1999/45/EC this preparation is considered dangerous. According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous. According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered hazardous.

See Section 11 for Toxicological Information.

**Section 4 - First Aid Measures**

- Inhalation**
- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
- Skin**
- IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If symptoms of sensitization occur seek medical attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.
- Ingestion**
- Get medical attention. Rinse mouth. Do not give anything by mouth to an unconscious person.

## Section 5 - Fire Fighting Measures

- Extinguishing Media**
  - LARGE FIRE: Water spray, fog or regular foam.
  - SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam.
- Unsuitable Extinguishing Media**
  - No data available.
- Firefighting Procedures**
  - LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.
  - LARGE FIRES: Move containers from fire area if you can do it without risk.
  - LARGE FIRES: Do not scatter spilled material with high pressure water streams.
  - LARGE FIRES: Dike fire-control water for later disposal.
  - Keep unauthorized personnel away.
  - Stay upwind.
- Unusual Fire and Explosion Hazards**
  - Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. May oxidize to nickel oxide if exposed to high temperatures within a fire. Under special conditions nickel can react with carbon monoxide in reducing atmospheres to form Nickel Carbonyl, Ni(CO)<sub>4</sub>, a toxic gas. Metal powders when heated in reducing atmospheres may become pyrophoric.
- Hazardous Combustion Products**
  - Nickel oxide, carbon dioxide and carbon monoxide.
- Protection of Firefighters**
  - Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

## Section 6 - Accidental Release Measures

- Personal Precautions**
  - Do not touch or walk through spilled material.
- Emergency Procedures**
  - As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. Keep unauthorized personnel away. Stay upwind.
- Environmental Precautions**
  - LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.
- Containment/Clean-up Measures**
  - 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. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect spills by wet sweeping or vacuuming with the vacuum exhaust passing through a high efficiency particulate arresting (HEPA) filter if exhaust is discharged into the work place. Wear appropriate nationally approved respirators if collection and disposal of spills is likely to cause the concentration limits of airborne nickel to exceed the locally prescribed exposure limits. Nickel containing material is normally collected to recover nickel values.
- Prohibited Materials**
  - No data available.

## Section 7 - Handling and Storage

- Handling**
  - Do not breathe (dust, vapor or spray mist) Wear appropriate respirator if handling is likely to cause the concentration of airborne nickel to exceed the locally prescribed exposure limits. Do not use in areas without adequate ventilation. Minimize dust generation and accumulation. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Storage**
  - Ventilate enclosed areas. Keep container closed. Store locked up. Do not store near acids or reactive substances.
- Special Packaging Materials**
  - No data available.
- Incompatible Materials or Ignition Sources**
  - Acids, ammonium nitrate, perchlorates, phosphorous, selenium and sulfur.

## Section 8 - Exposure Controls/Personal Protection

### Personal Protective Equipment

#### Pictograms



#### Respiratory

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

#### Eye/Face

- Wear safety glasses.

#### Hands

- Wear appropriate gloves.

#### Skin/Body

- Wear long sleeves and/or protective coveralls.

### General Industrial Hygiene Considerations

- Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Avoid prolonged or repeated skin contact.

### Engineering Measures/Controls

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. 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 not leakage from the equipment). It is recommended that 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.

Exposure Limits/Guidelines						
	Result	ACGIH	Australia	Canada Ontario	Canada Quebec	China
Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0)	TWAs	1.5 mg/m <sup>3</sup> TWA (inhalable fraction)	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWAEV (inhalable)	1 mg/m <sup>3</sup> TWAEV	1 mg/m <sup>3</sup> TWA
	STELs	Not established	Not established	Not established	Not established	2.5 mg/m <sup>3</sup> STEL
Exposure Limits/Guidelines (Con't.)						
	Result	China Highly Toxic Goods	France	Ireland	Israel	Japan
Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0)	TWAs	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> VME; 1 mg/m <sup>3</sup> VME (metal gratings)	0.5 mg/m <sup>3</sup> TWA	1.5 mg/m <sup>3</sup> TWA (inhalable fraction)	1 mg/m <sup>3</sup> OEL
	STELs	2.5 mg/m <sup>3</sup> STEL	Not established	Not established	Not established	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	Korea	Mexico	New Zealand	NIOSH	OSHA
Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0)	TWAs	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA	0.015 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA

### Exposure Limits/Guidelines (Con't.)

	Result	Singapore	Spain	Sweden	Switzerland	Taiwan
Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0)	MAKs	Not established	Not established	Not established	0.5 mg/m <sup>3</sup> MAK (inhalable)	Not established
	TWAs	1 mg/m <sup>3</sup> PEL	1 mg/m <sup>3</sup> VLA-ED	0.5 mg/m <sup>3</sup> LLV (total dust)	Not established	1 mg/m <sup>3</sup> TWA

### Exposure Control Notations

#### Australia

- Nickel (7440-02-0): **Sensitizers:** (sensitiser)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **Sensitizers:** (sensitiser)

#### Japan

- Nickel (7440-02-0): **Carcinogens:** (Group 2B - Possibly Carcinogenic to Humans (metal)) | **Carcinogens:** (Group 1 - Carcinogenic to Humans (except Ni metal, Evaluation does not necessarily apply to all individuals within the group)) | **Sensitizers:** (Group 2 airway sensitizer; Group 1 skin sensitizer)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **Carcinogens:** (Group 2B - Possibly Carcinogenic to Humans (metal)) | **Sensitizers:** (Group 2 airway sensitizer; Group 1 skin sensitizer)

#### Russia

- Nickel (7440-02-0): **Carcinogens:** (Carcinogen) | **Sensitizers:** (Allergenic substance)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **Carcinogens:** (Carcinogen) | **Sensitizers:** (Allergenic substance)

#### ACGIH

- Nickel (7440-02-0): **Carcinogens:** (A5 - Not Suspected as a Human Carcinogen)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **Carcinogens:** (A5 - Not Suspected as a Human Carcinogen)

#### Germany DFG

- Nickel (7440-02-0): **Carcinogens:** (Category 1 (causes cancer in man)) | **Carcinogens:** (Category 1 (causes cancer in man)) | **Sensitizers:** (respiratory and skin sensitizer) | **Sensitizers:** (respiratory and skin sensitizer)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **Carcinogens:** (Category 1 (causes cancer in man)) | **Sensitizers:** (respiratory and skin sensitizer)

### Exposure Limits Supplemental

#### Israel

- Nickel (7440-02-0): **Biological Markers of Occupational Exposure:** (15 µg/L Medium: urine)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **Biological Markers of Occupational Exposure:** (15 µg/L Medium: urine)

#### ACGIH

- Nickel (7440-02-0): **TLV Basis - Critical Effects:** (dermatitis; pneumoconiosis)
- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) (7440-02-0): **TLV Basis - Critical Effects:** (dermatitis; pneumoconiosis)

#### Key to abbreviations

MSHA = Mine Safety and Health Administration

LLV = Limit Level Value is the exposure limit for 8-hour work day

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWAEV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

VME = Valeur Moyenne d'Exposition is the maximum permissible concentration for a work day

VLA-ED = Valor Límite Ambiental Exposición Diaria is the limit for the daily average concentration

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

OEL = Occupational Exposure Limit



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**Key to abbreviations**

TD = Toxic Dose

TC = Toxic Concentration

## Section 12 - Ecological Information

- |                                  |   |
|----------------------------------|---|
| <b>Ecological Fate</b>           | ▪ No data available.  |
| <b>Persistence/Degradability</b> | ▪ No data available.  |
| <b>Bioaccumulation Potential</b> | ▪ No data available.  |
| <b>Mobility in Soil</b>          | ▪ No data available.  |
| <b>Other Information</b>         | ▪ May cause long-term adverse effects in the aquatic environment. Nickel is extremely toxic to citrus plants. |

## Section 13 - Disposal Considerations

- |                |   |
|----------------|---|
| <b>Product</b> | ▪ Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. |
|----------------|---|

## Section 14 - Transportation Information

**DOT - United States - Department of Transportation**

**Shipping Name:** Not Regulated

**TDG - Canada - Transport of Dangerous Goods**

**Shipping Name:** Not Regulated

**IMO/IMDG –International Maritime Transport**

**Shipping Name:** Not Regulated

**ADN - Europe Transport of Dangerous Goods by Road/Inland Waterway**

**Shipping Name:** Not Regulated

**IATA - International Air Transport Association**

**Shipping Name:** Not Regulated

**ADR - Europe Transport of Dangerous Goods by Road/Inland Waterway**

**Shipping Name:** Not Regulated

**RID - Europe Transport of Dangerous Goods by Railways**

**Shipping Name:** Not Regulated

## Section 15 - Regulatory Information

- |                                    |  |
|------------------------------------|--|
| <b>SARA Hazard Classifications</b> | ▪ Acute, Chronic   |
| <b>Risk &amp; Safety Phrases</b>   | ▪ R40 Limited evidence of a carcinogenic effect.<br>R43 May cause sensitisation by skin contact.<br>R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation. |

R52/53 Harmful to aquatic organisms, may cause long -term adverse effects in the aquatic environment.  
 S24 Avoid contact with skin.  
 S36/37 Wear suitable protective clothing and gloves.

State Right To Know				
Component	CAS	MA	NJ	PA
Nickel	7440-02-0	Yes	Yes	Yes
			Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Nickel	7440-02-0	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	CAS	Japan ENCS	Korea KECL	TSCA
Nickel	7440-02-0	No	Yes	Yes

## Australia

### Labor

#### Australia - Hazardous Substances - Substances Requiring Health Surveillance

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### Australia - High Volume Industrial Chemicals List

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0

#### Australia - List of Designated Hazardous Substances - Classification

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 T Carc.Cat.3 R40, R48/23, R43

### Environment

#### Australia - National Pollutant Inventory (NPI) Substance List

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 10 tonnes/year Threshold category 1 (Nickel and compounds); 2000 tonnes/year Threshold category 2b (Nickel and compounds); 60000 MWH Threshold category 2b (Nickel and compounds); 20 MW Threshold category 2b (Nickel and compounds)

#### Australia - Ozone Protection Act - Scheduled Substances

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### Australia - Priority Existing Chemical Program

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Standby chemical

## Canada

### Labor

#### Canada - WHMIS - Classifications of Substances

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 D2A, D2B; B6, D2A (Raney)

#### Canada - WHMIS - Ingredient Disclosure List

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 0.1 %

## Environment

### Canada - CEPA - Priority Substances List

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

## Europe

### Environment

#### EU - Seveso II Directive (96/82/EC) - Qualifying Quantities for Major Accident Notification

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### EU - Seveso II Directive (96/82/EC) - Qualifying Quantities for Safety Report Requirements

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

## Other

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Carc.Cat.3; R40 R43 T; R48/23

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 T R:40-43-48/23 S:(2)-36/37/39-45

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 S, 7

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 S:(2)-36/37/39-45

## Germany

### Environment

#### Germany - Water Classification (VwVwS) - Annex 1

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Number 7182, hazard class 2 - hazard to waters (footnote 47)

#### Germany - Water Classification (VwVwS) - Annex 3

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 ID Number 7616, hazard class 2 - hazard to waters (particle size <0.1 mm)

## Hong Kong

### Labor

#### Hong Kong - Dangerous Substances Regulations - Classification

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

## India

### Environment

#### India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 (powder)

## Mexico

### Other

#### Mexico - Hazard Classifications

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### Mexico - Regulated Substances

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

## Russia

### Labor

#### Russia - Limiting Quantities of Hazardous Substances

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

## Taiwan

### Environment

#### Taiwan - Toxic Chemical Substances Control Act - Threshold Regulated Quantities

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### Taiwan - Toxic Chemical Substances Control Act - Classification and Control Levels

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

## United States

### Labor

#### U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### U.S. - OSHA - Specifically Regulated Chemicals

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

### Environment

#### U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

#### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

#### U.S. - CERCLA/SARA - Section 313 - Emission Reporting

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 0.1 % de minimis concentration

#### U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

**U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Included in waste streams: F006, F039

**U.S. - RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Monitoring**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 (total)

**U.S. - RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 hazardous constituent - no waste number

**U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 (total)

**U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 3.98 mg/L (wastewater); 11.0 mg/L TCLP (nonwastewater)

**U.S. - RCRA (Resource Conservation & Recovery Act) - TSD Facilities Ground Water Monitoring**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 (total)

**United States - California**

**Environment**

**U.S. - California - Proposition 65 - Carcinogens List**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 carcinogen, initial date 10/1/89

**U.S. - California - Proposition 65 - Developmental Toxicity**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0 Not Listed

**United States - Pennsylvania**

**Labor**

**U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0

**U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades) 7440-02-0

**United States - Rhode Island**

**Labor**

**U.S. - Rhode Island - Hazardous Substance List**

- Novamet® Nickel Flake (HCA-1, Fine Leafing, Fine Water, CHT, Standard Water and Standard Leafing grades)

7440-02-0

Toxic;  
Carcinogen

**Section 16 - Other Information**

- Preparation Date**                   ▪ 3/8/2011
- Last Revision Date**               ▪ 3/8/2011
- Disclaimer/Statement of Liability**   ▪ The information provided in this material safety data sheet has been obtained from sources believed to be reliable. Palm International, Inc. provides no warranties, either express or implied and assumed no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration and investigation. You should satisfy yourself that you have all current data relevant to your particular use. Palm International, Inc. know of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.

**Key to abbreviations**  
NDA = No Data Available