

Section 1 - Product and Company Identification

| | |
|----------------------------|---|
| Material Name | ▪ Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) |
| CAS Number | ▪ 1313-99-1 |
| EINECS | ▪ 215-215-7 |
| Molecular Formula | ▪ NiO |
| Product Description | ▪ Green finely divided powder with no odor. |
| Product Use | ▪ The ultra high purity of Novamet Green Nickel Oxide makes it an ideal product for use in applications such as Solid Oxide Fuel Cells. Green Nickel Oxide can be blended with other high purity oxides and then pressed and sintered into shapes for use in a variety of semiconductor applications such as thermistors and varistors. |
| Manufacturer | ▪ Novamet Specialty Products Corporation 681 Lawlins Road Wyckoff, NJ 07481 United States |
| Telephone | |
| General | ▪ 201-891-7676 |
| <u>Emergency</u> | ▪ 800-424-9300 - CHEMTREC |
| Preparation Date | ▪ 3/8/2011 |
| Last Revision Date | ▪ 3/8/2011 |

Section 2 - Hazards Identification

Emergency Overview

DANGER

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

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

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

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



Physical Form

Color

Odor

OSHA

WHMIS

- Solid
- Green
- 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 1 - Carc.Cat.1
R53, R43, R48/23, R49



GHS

- Chronic Hazards to the aquatic environment - Category 4, Specific Target Organ Toxicity Repeated Exposure - Category 1, Skin Sensitizer - Category 1, Carcinogenicity - Category 1A

Route Of Entry

Target Organs

Medical Conditions

Aggravated by Exposure

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

NFPA:



Potential Health Effects

Inhalation

Acute (Immediate)

Chronic (Delayed)

- Exposure to dust may cause irritation.
- Repeated and prolonged exposure to dust may cause lung effects including pneumoconiosis.

Skin

Acute (Immediate)

Chronic (Delayed)

- May cause skin sensitization. Symptoms include redness, and skin rash. Exposure to dust may cause mechanical irritation.
- No data available.

Eye

Acute (Immediate)

Chronic (Delayed)

- 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.
- 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

- This material is a known carcinogen. Repeated and prolonged exposure may cause cancer.

| Carcinogenic Effects | | | |
|---|-----------|----------------------|-----------------------------|
| | CAS | IARC | NTP |
| Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) | 1313-99-1 | Group 1-Carcinogenic | Evidence of Carcinogenicity |

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 (II) Oxide | 1313-99-1 | 99.9% | 215-215-7 | NDA | R43 T; R48/23 Carc.Cat.1; R49 R53 | Carc. 1A; STOT RE 1; Skin Sens. 1; Aquatic Chronic 4; |

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). This product is considered dangerous according to the European Directive 67/548/EEC. 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 signs/symptoms develop, get medical attention.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

Ingestion

- Rinse mouth. Do not give anything by mouth to an unconscious person.

See Section 2 for Potential Health Effects.

Section 5 - Fire Fighting Measures

Extinguishing Media

- LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media

- No data available.

Firefighting Procedures

- Material is not flammable follow appropriate procedures for surrounding fire.

Unusual Fire and Explosion Hazards

- Material is not flammable and is not expected to pose a fire or explosion hazard.

Hazardous Combustion Products

- No data available.

- 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**
 - Keep unauthorized personnel away. Stay upwind. Ventilate closed spaces before entering.
- Environmental Precautions**
 - LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.
- Containment/Clean-up Measures**
 - Avoid generating dust.
 - SMALL DRY SPILLS: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
 - LARGE SPILLS: Cover powder spill with plastic sheet or tarp to minimize spreading.
 - LARGE SPILLS: Dike far ahead of spill for later disposal.
- Prohibited Materials**
 - No data available.

Section 7 - Handling and Storage

- Handling**
 - Do not breathe (dust, vapor or spray mist) Do not use in areas without adequate ventilation. Keep container closed when not in use. Wear suitable protective clothing, including gloves.
- Storage**
 - Ventilate enclosed areas. Keep container closed. Store locked up. Nickel oxide is subject to the Control of Major Accident Hazards Directives 96/82/EC, 98/433/EC & 2003/105/EC (The Seveso Directive II). Local consent needs to be obtained to store quantities in excess of 1 tonne.
- Special Packaging Materials**
 - No data available.
- Incompatible Materials or Ignition Sources**
 - No data available.

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 goggles.
- 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.
- Engineering Measures/Controls**
 - Dilution ventilation. Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

| Exposure Limits/Guidelines | | | | | | |
|---|--------|---|---|--|---|---|
| | Result | ACGIH | Canada Ontario | Canada Quebec | China | France |
| Green Nickel Oxide (1313-99-1) | STELs | Not established | Not established | Not established | 2.5 mg/m3 STEL (as Ni) <i>as Nickel, inorganic compounds, insoluble</i> | Not established |
| | TWAs | 0.2 mg/m3 TWA (as Ni, inhalable fraction) <i>as Nickel, inorganic compounds, insoluble</i> | 0.2 mg/m3 TWAEV (inhalable, as Ni) <i>as Nickel insoluble compounds</i> | 1 mg/m3 TWAEV (as Ni) <i>as Nickel insoluble compounds</i> | 1 mg/m3 TWA (as Ni) <i>as Nickel, inorganic compounds, insoluble</i> | 1 mg/m3 VME (as Ni) |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Ireland | Israel | Japan | NIOSH | OSHA |
| Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) | TWAs | 0.5 mg/m3 TWA (as Ni) <i>as Nickel, inorganic compounds, insoluble</i> | 0.2 mg/m3 TWA (inhalable fraction, as Ni) <i>as Nickel, inorganic compounds, insoluble</i> | 0.1 mg/m3 OEL (as Ni) <i>as Nickel insoluble compounds</i> | 0.015 mg/m3 TWA (except Nickel carbonyl, as Ni) <i>as Nickel compounds</i> | 1 mg/m3 TWA (as Ni) <i>as Nickel insoluble compounds</i> |
| Exposure Limits/Guidelines (Con't.) | | | | | | |
| | Result | Singapore | Spain | Sweden | Switzerland | Taiwan |
| Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) | MAKs | Not established | Not established | Not established | 0.05 mg/m3 MAK (as Ni, inhalable) | Not established |
| | TWAs | 1 mg/m3 PEL (as Ni) <i>as Nickel insoluble compounds</i> | 0.1 mg/m3 VLA-ED (as Ni) | 0.1 mg/m3 LLV (except Nickel carbonyl and Trinickeldisulfide, as Ni, total dust) <i>as Nickel compounds</i> | Not established | 1 mg/m3 TWA (as Ni) <i>as Nickel insoluble compounds</i> |

Exposure Control Notations

Japan

•Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel Compounds: **Carcinogens:** (Group 1 - Carcinogenic to Humans (except Ni metal, Evaluation does not necessarily apply to all individuals within the group))

ACGIH

•Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel, inorganic compounds, insoluble: **Carcinogens:** (A1 - Confirmed Human Carcinogen)

Germany DFG

•Nickel (II) Oxide (1313-99-1): **Carcinogens:** (Category 1 (causes cancer in man)) | **Sensitizers:** (respiratory and skin sensitizer)

•Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) (1313-99-1): **Carcinogens:** (Category 1 (causes cancer in man)) | **Carcinogens:** (Category 1 (causes cancer in man)) | **Sensitizers:** (respiratory and skin sensitizer) | **Sensitizers:** (respiratory and skin sensitizer)

Exposure Limits Supplemental

ACGIH

•Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel, inorganic compounds, insoluble: **TLV Basis - Critical Effects:** (lung cancer)

Key to abbreviations

MSHA = Mine Safety and Health Administration

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

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

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

Section 12 - Ecological Information

- | | |
|----------------------------------|---|
| Ecological Fate | ▪ No data available. |
| Persistence/Degradability | ▪ No data available. |
| Bioaccumulation Potential | ▪ No data available. |
| Mobility in Soil | ▪ No data available. |
| Other Information | ▪ May cause long-term adverse effects in the aquatic environment. |

Section 13 - Disposal Considerations

- | | |
|----------------|---|
| Product | ▪ 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

- | | |
|------------------------------------|--|
| SARA Hazard Classifications | ▪ Acute, Chronic |
| Risk & Safety Phrases | ▪ R53 May cause long-term adverse effects in the aquatic environment. R43 May cause sensitisation by skin contact. R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation. R49 May cause cancer by inhalation. S22 Do not breathe dust. S7/9 Keep container tightly closed and in a well ventilated place. |

State Right To Know

| Component | CAS | MA | NJ | PA |
|-------------------|-----------|-----|-----|-----|
| Nickel (II) Oxide | 1313-99-1 | Yes | Yes | Yes |

Inventory

| Component | CAS | Canada DSL | Canada NDSL | China | EU EINECS | EU ELNICS |
|-------------------|-----------|------------|-------------|-------|-----------|-----------|
| Nickel (II) Oxide | 1313-99-1 | Yes | No | Yes | Yes | No |

Inventory (Con't.)

| Component | CAS | Japan ENCS | Korea KECL | TSCA |
|-------------------|-----------|------------|------------|------|
| Nickel (II) Oxide | 1313-99-1 | Yes | Yes | Yes |

Australia

Labor

Australia - Hazardous Substances - Substances Requiring Health Surveillance

- Green Nickel Oxide 1313-99-1 Not Listed
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Australia - High Volume Industrial Chemicals List

- Green Nickel Oxide 1313-99-1 Not Listed
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Australia - List of Designated Hazardous Substances - Classification

- Green Nickel Oxide 1313-99-1 Carc.Cat.1 R49, R43, R53
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Environment

Australia - National Pollutant Inventory (NPI) Substance List

- Green Nickel Oxide 1313-99-1 Not Listed
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds 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

- Green Nickel Oxide 1313-99-1 Not Listed
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Australia - Priority Existing Chemical Program

- Green Nickel Oxide 1313-99-1 Standby chemical
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Green Nickel Oxide 1313-99-1 D2A
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Canada - WHMIS - Ingredient Disclosure List

- Green Nickel Oxide 1313-99-1 0.1 %
- Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds Not Listed

Environment

Canada - CEPA - Priority Substances List

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Europe

Environment

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

- | | | |
|---|-----------|----------------------------|
| ● Green Nickel Oxide | 1313-99-1 | 1 tonne (inhalable powder) |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | 1 tonne (inhalable powder) |

Other

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

- | | | |
|---|-----------|-----------------------------------|
| ● Green Nickel Oxide | 1313-99-1 | R43 T; R48/23 Carc.Cat.1; R49 R53 |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

- | | | |
|---|-----------|-------------------------------|
| ● Green Nickel Oxide | 1313-99-1 | T R:49-43-48/23-53 S:53-45-61 |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | E |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | S:53-45-61 |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Germany

Environment

Germany - Water Classification (VwVwS) - Annex 3

- | | | |
|---|-----------|---|
| ● Green Nickel Oxide | 1313-99-1 | ID Number 5368, hazard class 1 - low hazard to waters |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Hong Kong

Labor

Hong Kong - Dangerous Substances Regulations - Classification

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Other

Hong Kong - Controlled Carcinogens

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

India

Environment

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

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Mexico

Other

Mexico - Hazard Classifications

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Mexico - Regulated Substances

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Russia

Labor

Russia - Limiting Quantities of Hazardous Substances

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Taiwan

Environment

Taiwan - Toxic Chemical Substances Control Act - Threshold Regulated Quantities

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

United States

Labor

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

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

U.S. - OSHA - Specifically Regulated Chemicals

- | | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

Environment

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

- | | | |
|---|-----------|---|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | (includes any unique chemical substance that contains Nickel as part of its infrastructure) |

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

- | | | |
|----------------------|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
|----------------------|-----------|------------|

| | |
|--|---|
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | 0.1 % de minimis concentration (Chemical Category N495) |
| U.S. - RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261 | |
| ● Green Nickel Oxide | 1313-99-1 Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | hazardous constituent - no waste number |

United States - California

Environment

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

| | | |
|---|-----------|----------------------------------|
| ● Green Nickel Oxide | 1313-99-1 | carcinogen, initial date 10/1/89 |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | carcinogen, initial date 5/7/04 |

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

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

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

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

United States - Pennsylvania

Labor

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

| | |
|---|-----------|
| ● Green Nickel Oxide | 1313-99-1 |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | |

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

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | Not Listed |

United States - Rhode Island

Labor

U.S. - Rhode Island - Hazardous Substance List

| | | |
|---|-----------|------------|
| ● Green Nickel Oxide | 1313-99-1 | Not Listed |
| ● Novamet® Green Nickel Oxide (Type A, Type F & Standard Grade) as Nickel compounds | | 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