Safety Data Sheet

Section 1: Identification

Product identifier
Product Name

- Diamond/CBN Electroplated Grinding Wheels

Relevant identified uses of the substance or mixture and uses advised against
Recommended use

- SuperAbrasive wheels are to be used in ventilated environment on grinders/machines per operating rpm as indicated by supplier. Face protection is recommended for use during grinding operations.

Details of the supplier of the safety data sheet
Manufacturer

- Action Superabrasive Products
  945 Greenbriar Parkway
  Brimfield, OH 44240
  United States
  www.actionsuper.com

  Telephone (General) • 330-673-7333
  Telephone (Technical) • 330-673-7333

Emergency telephone number
Manufacturer

- 330-673-7333

Section 2: Hazard Identification

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture
OSHA HCS 2012

- Not classified

Label elements
OSHA HCS 2012

  Hazard statements • No label element(s) required

Other hazards
OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200(c) - Hazard Communication Standard), the product(s) listed above are exempt as article(s) under stated normal conditions of use.
Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Core</td>
<td>CAS:12597-69-2</td>
<td>N/A</td>
</tr>
<tr>
<td>Nickel</td>
<td>CAS:7440-02-0</td>
<td>N/A</td>
</tr>
<tr>
<td>Diamond</td>
<td>CAS:7782-40-3</td>
<td>N/A</td>
</tr>
<tr>
<td>Cubic boron nitride</td>
<td>CAS:10043-11-5</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 4: First-Aid Measures

Description of first aid measures

Inhalation
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, move person to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Wash skin with soap and water. If signs/symptoms develop, get medical attention.

Eye
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If contact with material occurs flush eyes with water. If signs/symptoms develop, get medical attention.

Ingestion
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, get medical attention.

Most important symptoms and effects, both acute and delayed
- Under normal conditions of use, no health effects are expected.

Indication of any immediate medical attention and special treatment needed
- No specific actions or treatments recommended related to exposure to this material.

Notes to Physician

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media
- In case of fire use media as appropriate for surrounding fire. For powder fires smother with dry sand, dry dolomite, ABC type fire extinguisher, or flood with water.

Unsuitable Extinguishing Media
- No data available.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Dusts generated in grinding operations may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions.

Hazardous Combustion Products
- No data available
Advice for 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, protective equipment and emergency procedures

Personal Precautions

• No special precautions expected to be necessary if material is used under ordinary conditions and as recommended. If airborne dust is generated, use an appropriate respirator.

Emergency Procedures

• No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended. Use normal clean up procedures.

Environmental precautions

• Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

• Pick up large pieces and sweep up any smaller ones. If dusts are generated, clean up using methods to avoid dust generation, such as vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean up.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

• Use good safety and industrial hygiene practices. Use only with adequate ventilation. Maintain good housekeeping procedures to prevent dust accumulation during grinding. Minimize free fall of powder and avoid dispersion of dust in air. Finely divided particles, dust, or fumes may be flammable or explosive. Avoid dust inhalation and direct skin contact with dust. Do not strike or impact product with hardened steel hammer or similar device because of possible fracture/shattering of product. Product should be pressed if inserted into another metal part or product. Wear appropriate personal protective equipment. Make sure tool is properly seated and safely clamped or held in place according to approved procedures. Always use machine guards and wear safety glasses and protective clothing to prevent injury in the event of tool breakage. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage

• Store in a cool, dry place.

Section 8 - Exposure Controls/Personal Protection

Control parameters

<table>
<thead>
<tr>
<th></th>
<th>Exposure Limits/Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACGIH</td>
</tr>
<tr>
<td>Nickel (7440-02-0)</td>
<td>TWAs 1.5 mg/m3 TWA (inhalable fraction)</td>
</tr>
<tr>
<td>Diamond</td>
<td>TWAs 10 mg/m3 TWA (inhalable particles, recommended); 3 mg/m3 TWA (respirable particles, recommended) as Particulates not otherwise classified (PNOC)</td>
</tr>
</tbody>
</table>
Exposure Control Notations
ACGIH
• Nickel (7440-02-0): Carcinogens: (A5 - Not Suspected as a Human Carcinogen)

Exposure Limits Supplemental
ACGIH
• Nickel (7440-02-0): TLV Basis - Critical Effects: (dermatitis; pneumoconiosis)

Exposure controls
Engineering Measures/Controls
• Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment
Respiratory • In case of insufficient ventilation, wear suitable respiratory equipment.
Eye/ Face • Wear safety glasses.
Skin/Body • Wear appropriate gloves.
Environmental Exposure Controls • Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations
ACGIH = American Conference of Governmental Industrial Hygiene
TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)
NIOSH = National Institute of Occupational Safety and Health
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Physical Form</th>
<th>Appearance/Description</th>
<th>Single layer plated solid grinding wheel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
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<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
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</table>

General Properties

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<th>Melting Point/Freezing Point</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
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<td>pH</td>
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<tr>
<td>Decomposition Temperature</td>
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<td></td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
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<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
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</table>

Vapor Pressure

<table>
<thead>
<tr>
<th>Physical Property</th>
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<th>Vapor Density</th>
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</thead>
<tbody>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td></td>
<td></td>
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</table>

Flammability

<table>
<thead>
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<th>Physical Property</th>
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<th>UEL</th>
<th>No data available</th>
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</thead>
<tbody>
<tr>
<td>Flash Point</td>
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<td>Autoignition</td>
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</tr>
<tr>
<td>LEL</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td></td>
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</table>

Environmental

<table>
<thead>
<tr>
<th>Physical Property</th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Octanol/Water Partition coefficient</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity
Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- No data available.

Incompatible materials

- Acids and Alkalis.

Hazardous decomposition products

- None

Section 11 - Toxicological Information

Information on toxicological effects

Other Material Information

- Note: Health effects listed are for exposure powders, dust, or mist from grinding. No health effects have been reported for exposure in solid form.

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory sensitization</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>OSHA HCS 2012 • No data available</td>
</tr>
</tbody>
</table>

Potential Health Effects

Inhalation

**Acute (Immediate)**

- Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

**Chronic (Delayed)**

- No data available

Skin

**Acute (Immediate)**

- Exposure to dust may cause mechanical irritation.

**Chronic (Delayed)**

- No data available

Eye
Acute (Immediate)
• Exposure to dust may cause mechanical irritation.
Chronic (Delayed)
• No data available

Ingestion
Acute (Immediate)
• No data available
Chronic (Delayed)
• No data available

Carcinogenic Effects
• This material does contain a component that may cause cancer. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Section 12 - Ecological Information

Toxicity
• No ecological data is available for this product.

Persistence and degradability
• No ecological data is available for this product.

Bioaccumulative potential
• No ecological data is available for this product.

Mobility in Soil
• No ecological data is available for this product.

Other adverse effects
• No hazards to the environment are expected from this product. However, consideration must be given to potential environment effects of the base material being processed.

Section 13 - Disposal Considerations

Waste treatment methods
Product waste
• Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
• Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>DOT</th>
<th>UN number</th>
<th>UN proper shipping name</th>
<th>Transport hazard class(es)</th>
<th>Packing group</th>
<th>Environmental hazards</th>
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</thead>
<tbody>
<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td></td>
</tr>
</tbody>
</table>

Special precautions for user
• None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
• No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
SARA Hazard Classifications
• None
### State Right To Know

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>MA</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubic boron nitride</td>
<td>10043-11-5</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Diamond</td>
<td>7782-40-3</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Steel Core</td>
<td>12597-69-2</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubic boron nitride</td>
<td>10043-11-5</td>
<td>Yes</td>
</tr>
<tr>
<td>Diamond</td>
<td>7782-40-3</td>
<td>Yes</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>Yes</td>
</tr>
<tr>
<td>Steel Core</td>
<td>12597-69-2</td>
<td>No</td>
</tr>
</tbody>
</table>

### United States

#### Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals
- Nickel
- Diamond
- Cubic boron nitride
- Steel Core

U.S. - OSHA - Specifically Regulated Chemicals
- Nickel
- Diamond
- Cubic boron nitride
- Steel Core

#### Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants
- Nickel
- Diamond
- Cubic boron nitride
- Steel Core

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

- Nickel
  - 7440-02-0
  - Not Listed
  - 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 >100 µm); 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 >100 µm)

- Diamond
- Cubic boron nitride
- Steel Core
• Nickel 7440-02-0 Not Listed
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs
• Nickel 7440-02-0 Not Listed
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs
• Nickel 7440-02-0 Not Listed
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting
• Nickel 7440-02-0 0.1 % de minimis concentration
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing
• Nickel 7440-02-0 Not Listed
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII
• Nickel 7440-02-0 Included in waste streams: F006, F039
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Monitoring
• Nickel 7440-02-0 (total)
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261
• Nickel 7440-02-0 hazardous constituent - no waste number
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents
• Nickel 7440-02-0 (total)
• Diamond 7782-40-3 Not Listed
• Cubic boron nitride 10043-11-5 Not Listed
• Steel Core 12597-69-2 Not Listed
### U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

- **Nickel** 7440-02-0
  - 3.98 mg/L (wastewater); 11.0 mg/L TCLP (nonwastewater)
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

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

- **Nickel** 7440-02-0 (total)
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

### United States - California

#### Environment

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

- **Nickel** 7440-02-0
  - Carcinogen, initial date 10/1/89 (metallic)
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

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

- **Nickel** 7440-02-0
  - Not Listed
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

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

- **Nickel** 7440-02-0
  - Not Listed
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

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

- **Nickel** 7440-02-0
  - Not Listed
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

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

- **Nickel** 7440-02-0
  - Not Listed
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed

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

- **Nickel** 7440-02-0
  - Not Listed
- **Diamond** 7782-40-3
  - Not Listed
- **Cubic boron nitride**
- **Steel Core** 12597-69-2
  - Not Listed
United States - Pennsylvania

Labor

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

- Nickel 7440-02-0
- Diamond 7782-40-3 Not Listed
- Cubic boron nitride 10043-11-5 Not Listed
- Steel Core 12597-69-2 Not Listed

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

- Nickel 7440-02-0
- Diamond 7782-40-3 Not Listed
- Cubic boron nitride 10043-11-5 Not Listed
- Steel Core 12597-69-2 Not Listed

Other Information

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

Section 16 - Other Information

Revision Date 29/October/2015
Preparation Date 29/October/2015
Disclaimer/Statement of Liability

Although Action Superabrasive Products has attempted to provide current and accurate information herein, Action Superabrasive Products makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person. It shall be the responsibility of the customer purchasing this product to ensure that all employees/users of this product are familiar with and trained in the handling, use and hazards associated with this product as contained herein. This responsibility shall also extend directly to the user.

Key to abbreviations
NDA = No Data Available