### SECTION 1: Identification

#### 1.1. Identification

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>BNI-1</td>
</tr>
<tr>
<td>Product code</td>
<td>A00000470</td>
</tr>
</tbody>
</table>

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Lucas-Milhaupt, Inc.
5656 South Pennsylvania Ave.
Cudahy, WI 53110 - USA
T (414)-769-6000
LM_SDSinfo@lucasmilhaupt.com - www.Lucasmilhaupt.com

#### 1.4. Emergency telephone number

| Emergency number | CHEMTREC within the USA and Canada: 1-800-424-9300
|                 | CHEMTREC outside the USA and Canada +1 701-741-5970 |

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

**GHS US classification**

<table>
<thead>
<tr>
<th>Hazard</th>
<th>GHS US Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin sensitisation, Category 1</td>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Carcinogenicity, Category 1B</td>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>Specific target organ toxicity — Repeated exposure, Category 1</td>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

#### 2.2. GHS Label elements, including precautionary statements

**GHS US labelling**

- **Hazard pictograms (GHS US)**: ![Exclamation Mark]  ![Warning Sign]
- **Signal word (GHS US)**: Danger
- **Hazard statements (GHS US)**:
  - H317 - May cause an allergic skin reaction.
  - H350 - May cause cancer.
  - H372 - Causes damage to organs through prolonged or repeated exposure.
- **Precautionary statements (GHS US)**:
  - P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
  - P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P264 - Wash hands, forearms and face thoroughly after handling.
  - P270 - Do not eat, drink or smoke when using this product.
  - P272 - Contaminated work clothing must not be allowed out of the workplace.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P302+P352 - If on skin: Wash with plenty of water
  - P308+P313 - If exposed or conjectured: Get medical advice/attention.
  - P314 - Get medical advice/attention if you feel unwell.
  - P321 - Specific treatment (see supplemental first aid instruction on this label).
  - P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
  - P363 - Wash contaminated clothing before reuse.
  - P405 - Store locked up.
  - P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>(CAS-No.) 7440-02-0</td>
<td>70.6 - 75.65</td>
</tr>
<tr>
<td>Chromium</td>
<td>(CAS-No.) 7440-47-3</td>
<td>13 - 15</td>
</tr>
<tr>
<td>Iron</td>
<td>(CAS-No.) 7439-89-6</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Silicon</td>
<td>(CAS-No.) 7440-21-3</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Boron</td>
<td>(CAS-No.) 7440-42-8</td>
<td>2.75 - 3.5</td>
</tr>
<tr>
<td>Carbon</td>
<td>(CAS-No.) 7440-44-0</td>
<td>0.6 - 0.9</td>
</tr>
</tbody>
</table>

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

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects after skin contact: May cause an allergic skin reaction.

4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Suitable extinguishing media: Dry powder. Water spray. Foam.
Unsuitable extinguishing media: Water.

5.2. Specific hazards arising from the chemical
Fire hazard: May form combustible dust concentrations in air.
Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Do not breathe dust/fume/gas/mist/vapours/spray. Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment. Notify authorities if product enters sewers or public waters.
6.3. Methods and material for containment and cleaning up

For containment: Collect spillage.
Methods for cleaning up: Mechanically recover the product. Notify authorities if product enters sewers or public waters.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid dust formation.

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. Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>IDLH (mg/m³)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron (7440-42-8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon (7440-44-0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium (7440-47-3)</td>
<td>ACGIH TWA (mg/m³)</td>
<td>0.5 mg/m³ (inhalable particulate matter)</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>US IDLH (mg/m³)</td>
<td>250 mg/m³</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Iron (7439-89-6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel (7440-02-0)</td>
<td>ACGIH TWA (mg/m³)</td>
<td>1.5 mg/m³ (inhalable particulate matter)</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>US IDLH (mg/m³)</td>
<td>10 mg/m³</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>0.015 mg/m³</td>
</tr>
<tr>
<td>Silicon (7440-21-3)</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>10 mg/m³ (total dust) 5 mg/m³ (respirable dust)</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7). Avoid dust formation. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.
### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Acute toxicity (oral)**: Not classified

**Acute toxicity (dermal)**: Not classified

**Acute toxicity (inhalation)**: Not classified

- **Boron (7440-42-8)**
  - LD50 oral rat: 650 mg/kg
  - ATE US (oral): 650 mg/kg bodyweight

- **Carbon (7440-44-0)**
  - LD50 oral rat: > 10000 mg/kg

- **Iron (7439-89-6)**
  - LD50 oral rat: 30 g/kg
  - ATE US (oral): 984 mg/kg bodyweight

- **Nickel (7440-02-0)**
  - LD50 oral rat: > 9000 mg/kg
  - LC50 inhalation rat (mg/l): > 10.2 mg/l (Exposure time: 1 h)

- **Silicon (7440-21-3)**
  - LD50 oral rat: 3160 mg/kg
  - ATE US (oral): 3160 mg/kg bodyweight

- **Skin corrosion/irritation**: Not classified

- **Serious eye damage/irritation**: Not classified

- **Respiratory or skin sensitisation**: May cause an allergic skin reaction.

- **Germ cell mutagenicity**: Not classified

- **Carcinogenicity**: May cause cancer.

- **Chromium (7440-47-3)**
  - IARC group: 3 - Not classifiable

- **Nickel (7440-02-0)**
  - IARC group: 2B - Possibly carcinogenic to humans
  - National Toxicity Program (NTP) Status: Reasonably anticipated to be Human Carcinogen
  - In OSHA Hazard Communication Carcinogen list: Yes

  - Reproductive toxicity: Not classified
  - STOT-single exposure: Not classified

  - STOT-repeated exposure: Causes damage to organs through prolonged or repeated exposure.

- **Nickel (7440-02-0)**
  - STOT-repeated exposure: Causes damage to organs through prolonged or repeated exposure.

- **Aspiration hazard**: Not classified

- **Viscosity, kinematic**: No data available

- **Symptoms/effects after skin contact**: May cause an allergic skin reaction.

### SECTION 12: Ecological information

**12.1. Toxicity**

**Ecology - general**: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Very toxic to aquatic life.

- **Nickel (7440-02-0)**
  - LC50 fish 1: > 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
  - EC50 Daphnia 1: > 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Nickel (7440-02-0)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 2</td>
<td>1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods
Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Boron (7440-42-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Carbon (7440-44-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

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

Iron (7439-89-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
**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 RO  

100 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

**Silicon (7440-21-3)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

**Boron (7440-42-8)**

Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Carbon (7440-44-0)**

Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Chromium (7440-47-3)**

Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Iron (7439-89-6)**

Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Nickel (7440-02-0)**

Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Silicon (7440-21-3)**

Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 15.3. US State regulations

**WARNING:** This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogenicity</th>
<th>Developmental toxicity</th>
<th>Reproductive toxicity male</th>
<th>Reproductive toxicity female</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel(7440-02-0)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>No significant risk level (NSRL)</td>
<td>Maximum allowable dose level (MADL)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron(7440-42-8)</td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td>Carbon(7440-44-0)</td>
<td></td>
</tr>
<tr>
<td>Chromium(7440-47-3)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
<tr>
<td>Iron(7439-89-6)</td>
<td></td>
</tr>
<tr>
<td>Nickel(7440-02-0)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
<tr>
<td>Silicon(7440-21-3)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
</table>

### SECTION 16: Other information
BNI-1
Safety Data Sheet

Full text of H-statements:

<table>
<thead>
<tr>
<th>H-statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Lucas-Milhaupt, Inc.