Section 1 – Identification

1.1 Product Identifier

HIGH SPEED STEEL DRILL BITS, TAPS, STEP TOOLS, REAMERS, COMBINED DRILL & COUNTERSINK, COMBINED DRILL & TAP

Grade Name & Typical Chemistry (% Weight)

<table>
<thead>
<tr>
<th>Grade</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>Cr</th>
<th>W</th>
<th>Mo</th>
<th>V</th>
<th>Co</th>
<th>Fe</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-1</td>
<td>0.83</td>
<td>0.35</td>
<td>0.30</td>
<td>3.80</td>
<td>1.75</td>
<td>8.50</td>
<td>1.15</td>
<td></td>
<td>Balance</td>
</tr>
<tr>
<td>M-2</td>
<td>0.86</td>
<td>0.30</td>
<td>0.30</td>
<td>4.10</td>
<td>6.35</td>
<td>5.00</td>
<td>1.90</td>
<td></td>
<td>Balance</td>
</tr>
<tr>
<td>M-7</td>
<td>1.00</td>
<td>0.40</td>
<td>0.30</td>
<td>3.80</td>
<td>1.75</td>
<td>8.50</td>
<td>1.90</td>
<td></td>
<td>Balance</td>
</tr>
<tr>
<td>M-42</td>
<td>1.07</td>
<td>0.30</td>
<td>0.30</td>
<td>3.80</td>
<td>1.50</td>
<td>9.50</td>
<td>1.15</td>
<td>8.00</td>
<td>Balance</td>
</tr>
<tr>
<td>M-50</td>
<td>0.82</td>
<td>0.45</td>
<td>0.30</td>
<td>4.10</td>
<td>4.20</td>
<td>1.00</td>
<td></td>
<td></td>
<td>Balance</td>
</tr>
</tbody>
</table>

1.2 Recommended use and Restrictions on use

Rotary cutting tool

1.3 Supplier's details

Manufacturer's Name: Viking Drill & Tool, Inc.
Address: 355 State St., St. Paul, MN. 55107
Telephone #: 651-227-8911

1.4 Emergency telephone number

651-268-5111

Section 2 – Hazard Identification

2.1 Hazard Classification

• This product is considered to be an article, and should not present a health hazard during normal use.

2.2 Label Elements

• Signal Word: n/a
• Symbols: n/a
• Pictograms: n/a

2.3 Hazards not otherwise classified

We do not consider this product in the form it is sold to constitute a physical hazard or a health hazard. Subsequent operations such as grinding, melting, welding, cutting or processing in any other fashion may produce potentially hazardous dust or fumes which can be inhaled, swallowed or come in contact with the skin or eyes.

Section 3 – Composition/Information on Ingredients

Threshold limit values (TLV) for constituent elements

<table>
<thead>
<tr>
<th>Constituent Element</th>
<th>CAS NO.</th>
<th>OSHA PEL (mg/m3)</th>
<th>ACGIH TLV (mg/m3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>Al</td>
<td>7429-90-5</td>
<td>10.00</td>
</tr>
<tr>
<td>Boron</td>
<td>B</td>
<td>1303-86-2</td>
<td>15.00</td>
</tr>
<tr>
<td>Carbon</td>
<td>C</td>
<td>1333-86-4</td>
<td>3.50</td>
</tr>
<tr>
<td>Chromium</td>
<td>Cr</td>
<td>7440-47-3</td>
<td>1.00</td>
</tr>
<tr>
<td>Cobalt</td>
<td>Co</td>
<td>7440-48-4</td>
<td>0.10</td>
</tr>
<tr>
<td>Copper</td>
<td>Cu</td>
<td>7440-50-8</td>
<td>0.10</td>
</tr>
<tr>
<td>Iron</td>
<td>Fe</td>
<td>1309-37-1</td>
<td>10.00</td>
</tr>
<tr>
<td>Manganese</td>
<td>Mn</td>
<td>7439-96-5</td>
<td>5.00 *</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>Mo</td>
<td>7439-98-7</td>
<td>15.00</td>
</tr>
</tbody>
</table>

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Nickel Ni 7440-02-0 1.00 1.00
Silicon Si 7440-21-3 N/A 5.00
Titanium Ti 134630-67-7 15.00 5.00
Tungsten W 7440-33-7 (Ins. Comp.) 5.00
Vanadium V 1314-62-1 0.50 * (Dust) 0.05

*Ceiling Limits. No threshold limit values (TLV's) exist for specialty or high speed steels. Above TLV's are applicable to the constituent elements.

SECTION 4 – First Aid Measures

Description of first aid measures

PRIMARY ROUTES OF ENTRY: EMERGENCY FIRST AID:

Inhalation  Remove to fresh-air, if condition continues-consult physician.
Eye Contact  Flush well with running water to remove particulate. Get medical attention.
Skin Contact  Brush off excess dust. Wash area with soap and water.
Ingestion  Seek medical help if large quantities of material have been ingested.

SECTION 5 – Fire-fighting Measures

FLASH POINT:  NONE
FIRE POINT:  NONE

SECTION 6 – Accidental Release Measures

STEPS TO BE TAKEN IN CASE OF RELEASE OR SPILL: N/A

SECTION 7 – Handling and Storage

Sharp edges could cut. Handle with care. No special care for storage.

SECTION 8 – Exposure Controls/Personal Protection

VENTILATION REQUIREMENTS:  General – Recommended, Local – As Required

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:  If fumes, misting or dust condition occurs and TLV as indicated in Section II is exceeded, provide NIOSH approved respirators.
Recommended Gloves:  As Required
Other Clothing or Equipment:  As Required

SECTION 9 – Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>&gt; 5000° F</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Approx 2500° F</td>
</tr>
<tr>
<td>Specific Gravity (H₂O=1)</td>
<td>Approx. 7.8 - 8.2 @ 60° F</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in H₂O</td>
<td>Insoluble</td>
</tr>
<tr>
<td>% Volatiles by Volume</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation (ButylAcetate=1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Appearance and Odor</td>
<td>An odorless metal in various shapes and sizes</td>
</tr>
</tbody>
</table>

SECTION 10 – Stability and Reactivity

STABILITY: Chemically Stable

INCOMPATIBILITY: Reacts with Strong Acids to Generate Hydrogen Gas

HAZARDOUS DECOMPOSITION PRODUCTS:  Metallic Oxides

SECTION 11 – Toxicological Information

Contact the address listed on the first page of the Safety Data Sheet for toxicological information on the material and its components
SECTION 12 – Ecological Information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Ecotoxical effects:
  - Remark: Toxic for fish
- Additional ecological information:
  - General notes:
    We do not consider this product in the form it is sold to constitute an ecological hazard. Subsequent operations such as grinding, melting, welding, cutting or processing in any other fashion may produce potentially hazardous dust which can be hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

SECTION 13 – Disposal Considerations

WASTE DISPOSAL METHOD: Solids - Sale as Scrap, Dust, Etc. - Follow Federal, State and Local Regulations

SECTION 14 – Transport Information

- UN-Number: DOT, ADN, IMDG, IATA: Not regulated
- UN proper shipping name: DOT, ADN, IMDG, IATA: Not regulated
- Transport hazard class(es): DOT, ADN, IMDG, IATA Class: Not regulated
- Packing group: DOT, IMDG, IATA: Not regulated
- Environmental hazards:
  - Marine pollutant: Not applicable
- Special precautions for user: Not applicable
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable
- UN "Model Regulation": Not applicable

SECTION 15 – Regulatory Information

- Section 355 (extremely hazardous substances): not applicable
- Section 313 (Specific toxic chemical listings): not applicable
- TSCA (Toxic Substances Control Act): All ingredients are listed.
- Proposition 65: not applicable
- EPA (Environmental Protection Agency): not applicable
- TLV (Threshold Limit Value established by ACGIH): not applicable
- NIOSH-Ca (National Institute for Occupational Safety and Health): not applicable

SECTION 16 – Other Information

USE GOOD HOUSEKEEPING PRACTICES TO PREVENT ACCUMULATIONS OF DUST AND USE GOOD VENTILATION PROCEDURES TO KEEP ALL AIRBORNE DUST CONCENTRATIONS TO A MINIMUM.

THIS MATERIAL MAY BE COATED WITH A LIGHT PRESERVATIVE OIL AS A RUST INHIBITOR. IF SO COATED APPROPRIATE PRECAUTIONS ALONG WITH PERSONAL PROTECTIVE EQUIPMENT SHOULD BE ISSUED AS REQUIRED.

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