1 Identification

- Product name: Diamond Tools - Very Fine and Fine, Metal Bond
- Part number:
  - 15-92VFMB0.70 - 15-92VFMB5.0
  - 15-92FMB0.7 - 15-92FMB3.0
  - 15-92MMB1.0 - 15-92MMB3.0
  - 15-92CMB3.0
- Application of the substance / the mixture: Abrasive
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    Allied High Tech Products Inc.
    2376 East Pacifica Place
    USA-RANCHO DOMINGUEZ, CA 90220
    USA
    info@alliedhightech.com
  - Information department: Product safety department
  - Emergency telephone number:
    During normal opening times: +1 (310) 635-2466
    Chemtrec: +1 (202) 483-7616

2 Hazard(s) Identification

- Classification of the substance or mixture

  GHS08 Health hazard

  Resp. Sens. 1  H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  Carc. 2  H351  Suspected of causing cancer.
  STOT RE 1  H372  Causes damage to the lung through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

- GHS07

  Skin Sens. 1  H317  May cause an allergic skin reaction.
  STOT SE 3  H335  May cause respiratory irritation.
- Additional information: Based on health effects for dust
- Label elements
  - GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
Product name: Diamond Tools - Very Fine and Fine, Metal Bond

- **Hazard pictograms**

  ![GHS07](image1) ![GHS08](image2)

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - cobalt
  - nickel

- **Hazard statements**
  - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - May cause an allergic skin reaction.
  - Suspected of causing cancer.
  - May cause respiratory irritation.
  - Causes damage to the lung through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

- **Precautionary statements**
  - Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Do not breathe dust/fume/gas/mist/vapors/spray.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - Use only outdoors or in a well-ventilated area.
  - Contaminated work clothing must not be allowed out of the workplace.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - [In case of inadequate ventilation] wear respiratory protection.
  - If on skin: Wash with plenty of water.
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - IF exposed or concerned: Get medical advice/attention.
  - Call a poison center/doctor if you feel unwell.
  - Specific treatment (see on this label).
  - Get medical advice/attention if you feel unwell.
  - If skin irritation or rash occurs: Get medical advice/attention.
  - If experiencing respiratory symptoms: Call a poison center/doctor.
  - Wash contaminated clothing before reuse.
  - Store in a well-ventilated place. Keep container tightly closed.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**

  ![NFPA](image3)

  - Health = 1
  - Fire = 0
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**

  ![HMIS](image4)

  - Health = 1
  - Fire = 0
  - Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
**3 Composition/information on ingredients**

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Hazardous Components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8 copper</td>
<td>25-50%</td>
</tr>
<tr>
<td>1309-37-1 diiron trioxide</td>
<td>10-25%</td>
</tr>
<tr>
<td>7440-48-4 cobalt</td>
<td>10-25%</td>
</tr>
<tr>
<td>7440-47-3 chromium</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>409-21-2 silicon carbide</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>7440-31-5 tin</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>7782-42-5 Graphite</td>
<td>≤2.5%</td>
</tr>
<tr>
<td>7440-22-4 silver</td>
<td>≤2.3%</td>
</tr>
<tr>
<td>7439-98-7 molybdenum</td>
<td>≤2.3%</td>
</tr>
</tbody>
</table>

- **Non-hazardous Components:**
  - Glass or glass porcelain                     | 2.5-10% |

**4 First-aid measures**

- **Description of first aid measures**
- **General information:**
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**
  Supply fresh air and to be sure call for a doctor.
  In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water.

- **After swallowing:** If symptoms persist consult doctor.

- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed
    - Coughing
    - Breathing difficulty
  - **Indication of any immediate medical attention and special treatment needed**
    - No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
  During heating or in case of fire poisonous gases are produced.
Product name: Diamond Tools - Very Fine and Fine, Metal Bond

*Advice for firefighters*
*Protective equipment: Mouth respiratory protective device.*

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- **Reference to other sections**
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

<table>
<thead>
<tr>
<th>PAC-1</th>
<th>PAC-2</th>
<th>PAC-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-30-8</td>
<td>7440-30-8</td>
<td>7440-30-8</td>
</tr>
<tr>
<td>copper</td>
<td>copper</td>
<td>copper</td>
</tr>
<tr>
<td>3 mg/m³</td>
<td>33 mg/m³</td>
<td>200 mg/m³</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>1309-37-1</td>
<td>1309-37-1</td>
</tr>
<tr>
<td>diiron trioxide</td>
<td>diiron trioxide</td>
<td>diiron trioxide</td>
</tr>
<tr>
<td>15 mg/m³</td>
<td>360 mg/m³</td>
<td>2,200 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>7440-48-4</td>
<td>7440-48-4</td>
</tr>
<tr>
<td>cobalt</td>
<td>cobalt</td>
<td>cobalt</td>
</tr>
<tr>
<td>0.18 mg/m³</td>
<td>2 mg/m³</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>7440-47-3</td>
<td>7440-47-3</td>
</tr>
<tr>
<td>chromium</td>
<td>chromium</td>
<td>chromium</td>
</tr>
<tr>
<td>1.5 mg/m³</td>
<td>17 mg/m³</td>
<td>99 mg/m³</td>
</tr>
<tr>
<td>409-21-2</td>
<td>409-21-2</td>
<td>409-21-2</td>
</tr>
<tr>
<td>silicon carbide</td>
<td>silicon carbide</td>
<td>silicon carbide</td>
</tr>
<tr>
<td>45 mg/m³</td>
<td>500 mg/m³</td>
<td>3,000 mg/m³</td>
</tr>
<tr>
<td>7440-31-5</td>
<td>7440-31-5</td>
<td>7440-31-5</td>
</tr>
<tr>
<td>tin</td>
<td>tin</td>
<td>tin</td>
</tr>
<tr>
<td>6 mg/m³</td>
<td>67 mg/m³</td>
<td>67 mg/m³</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>7440-02-0</td>
<td>7440-02-0</td>
</tr>
<tr>
<td>nickel</td>
<td>nickel</td>
<td>nickel</td>
</tr>
<tr>
<td>4.5 mg/m³</td>
<td>50 mg/m³</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>7440-22-4</td>
<td>7440-22-4</td>
<td>7440-22-4</td>
</tr>
<tr>
<td>silver</td>
<td>silver</td>
<td>silver</td>
</tr>
<tr>
<td>0.3 mg/m³</td>
<td>170 mg/m³</td>
<td>990 mg/m³</td>
</tr>
<tr>
<td>7439-98-7</td>
<td>7439-98-7</td>
<td>7439-98-7</td>
</tr>
<tr>
<td>molybdenum</td>
<td>molybdenum</td>
<td>molybdenum</td>
</tr>
<tr>
<td>30 mg/m³</td>
<td>330 mg/m³</td>
<td>330 mg/m³</td>
</tr>
</tbody>
</table>
Product name: Diamond Tools - Very Fine and Fine, Metal Bond

7 Handling and storage

- Handling:
  - Precautions for safe handling: Open and handle receptacle with care.
  - Information about protection against explosions and fires: Keep respiratory protective device available.

- Conditions for safe storage, including any incompatibilities

- Storage:
  - Requirements to be met by storerooms and receptacles:
    - Store in a cool location.
    - No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    - Keep receptacle tightly sealed.
    - Store receptacle in a well ventilated area.

- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.

- Control parameters

  - Components with limit values that require monitoring at the workplace:

<pre><code>| Material | PEL Long-term value | REL Long-term value | TLV Long-term value |
|----------|---------------------|---------------------|---------------------|
| 7439-98-7 molybdenum | 1* 0.1** mg/m³ as Cu | 1* 0.1** mg/m³ as Cu | 1* 0.2** mg/m³ as Cu |
| 1309-37-1 diiron trioxide | 10* mg/m³ as Fe | 5 mg/m³ Dust &amp; fume, as Fe | 5* mg/m³ as respirable fraction |
| 7440-45-8 cobalt | 0.1* mg/m³ as Co | 0.05 mg/m³ as Co | 0.02* mg/m³ as Co metal dust &amp; fume |
| 7440-47-3 chromium | 1 mg/m³ | | |
</code></pre>
<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>PEL Long-term value:</th>
<th>REL Long-term value:</th>
<th>TLV Long-term value:</th>
</tr>
</thead>
<tbody>
<tr>
<td>409-21-2</td>
<td>silicon carbide</td>
<td>15* 5** mg/m³</td>
<td>10* 5** mg/m³</td>
<td>10* 5** mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fibrous dust:</td>
<td>total dust:</td>
<td>respirable fraction:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*metal</td>
<td>**metal</td>
<td></td>
</tr>
<tr>
<td>7440-31-5</td>
<td>tin</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>metal</td>
<td>metal</td>
<td></td>
</tr>
<tr>
<td>7440-02-0</td>
<td>nickel</td>
<td>1 mg/m³</td>
<td>0.015 mg/m³</td>
<td>1.5* mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>as Ni; See Pocket Guide App. A</td>
<td></td>
<td>elemental, *inhalable fraction</td>
</tr>
<tr>
<td>7782-42-5</td>
<td>Graphite</td>
<td>15 mppcf* mg/m³</td>
<td>2.5* mg/m³</td>
<td>2* mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>impinger samples counted by light field techn.</td>
<td>*respirable dust</td>
<td>all forms except graphite fibers; *resp. fraction</td>
</tr>
<tr>
<td>7440-22-4</td>
<td>silver</td>
<td>0.01 mg/m³</td>
<td>0.01 mg/m³</td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>metal: dust and fume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7439-98-7</td>
<td>molybdenum</td>
<td>15* mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total dust, as Mo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10* 3** mg/m³</td>
<td>as Mo; *inhalable fraction ** respirable fraction</td>
<td></td>
</tr>
</tbody>
</table>


**Ingredients with biological limit values:**

<table>
<thead>
<tr>
<th>Substance</th>
<th>BEI</th>
<th>Medium</th>
<th>Time</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-48-4 cobalt</td>
<td>15 µg/L</td>
<td>urine</td>
<td>end of shift at end of workweek</td>
<td>Cobalt (background)</td>
</tr>
<tr>
<td></td>
<td>1 µg/L</td>
<td>blood</td>
<td>end of shift at end of workweek</td>
<td>Cobalt (background, semi-quantitative)</td>
</tr>
</tbody>
</table>

**Additional information:** The lists that were valid during the creation were used as basis.

**Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.

**Breathing equipment:** Use suitable respiratory protective device when high concentrations are present.

**Protection of hands:**

*Protective gloves*

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:**

*Tightly sealed goggles*

---

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**
- Form: Solid
- Color: Dark grey
- Odor: Odorless
- Odor threshold: Not determined.

(Contd. on page 8)
Product name: Diamond Tools - Very Fine and Fine, Metal Bond

49.0

· pH-value: Not applicable.

· Change in condition
  Melting point/Melting range: >220 °C (>428 °F)
  Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not determined.

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:
  Lower: Not determined.
  Upper: Not determined.

· Vapor pressure: Not applicable.

· Density: Not determined.
  Relative density: Not determined.
  Vapor density: Not determined.
  Specific gravity: >1.0 (Water = 1)
  Evaporation rate: Not applicable.

· Solubility in / Miscibility with Water: Slightly soluble.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:
  Dynamic: Not applicable.
  Kinematic: Not applicable.

· Solvent content:
  VOC content: 0.00 %
  0.0 g/l / 0.00 lb/gal

Solids content: 100.0 %

· Other information No further relevant information available.

10. Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid Keep away from oxidising agents and acidic substances.

· Incompatible materials: Acids of all types with pH < 4.0

· Hazardous decomposition products: No dangerous decomposition products known.
11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

- LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>ATE (Acute Toxicity Estimate)</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalative LC50/4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>27,459 mg/kg (rat)</td>
<td>27,459 mg/kg (rat)</td>
<td>52.3 mg/l (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Primary chemical irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.

- Sensitization:
  Sensitization possible through inhalation.
  Sensitization possible through skin contact.

- Additional toxicological information:
  Abrasive skin irritant
  Abrasive eye irritant

- Carcinogenic categories

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1309-37-1 diiron trioxide</td>
</tr>
<tr>
<td>7440-48-4 cobalt</td>
</tr>
<tr>
<td>7440-47-3 chromium</td>
</tr>
<tr>
<td>409-21-2 silicon carbide</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-48-4 cobalt</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety &amp; Health Administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
13 Disposal considerations

- 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.
- Additional ecological information:
- General notes:
  Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  Danger to drinking water if even extremely small quantities leak into the ground.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

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: not regulated
  - Class: not regulated
- Packing group
  - DOT, IMDG, IATA: not regulated
- Environmental hazards: Not applicable.
- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.
- UN "Model Regulation": not regulated

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
- Section 355 (extremely hazardous substances):
  None of the ingredients is listed.
# Safety Data Sheet

**Product name:** Diamond Tools - Very Fine and Fine, Metal Bond

## Section 313 (Specific toxic chemical listings):
- 7440-50-8 copper
- 7440-48-4 cobalt
- 7440-47-3 chromium
- 7440-02-0 nickel
- 7440-22-4 silver

## TSCA (Toxic Substances Control Act):
- 7440-50-8 copper **ACTIVE**
- 1309-37-1 diiron trioxide **ACTIVE**
- 7440-48-4 cobalt **ACTIVE**
- 7440-47-3 chromium **ACTIVE**
- 409-21-2 silicon carbide **ACTIVE**
- 7440-31-5 tin **ACTIVE**
- 7440-02-0 nickel **ACTIVE**
- 7782-42-5 Graphite **ACTIVE**
- 7440-22-4 silver **ACTIVE**
- 7439-98-7 molybdenum **ACTIVE**

## Hazardous Air Pollutants
- 7440-48-4 cobalt

## Proposition 65

### Chemicals known to cause cancer:
- 7440-48-4 cobalt
- 7440-02-0 nickel

### Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

### Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

### Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

## Carcinogenic categories

### EPA (Environmental Protection Agency)
- 7440-50-8 copper **D**
- 7440-47-3 chromium **D**
- 7440-22-4 silver **D**

### TLV (Threshold Limit Value established by ACGIH)
- 1309-37-1 diiron trioxide **A4**
- 7440-48-4 cobalt **A3**
- 7440-47-3 chromium **A4**
- 409-21-2 silicon carbide **A2**
- 7440-02-0 nickel **A5**
- 7439-98-7 molybdenum **A3**

### NIOSH-Ca (National Institute for Occupational Safety and Health)
- 7440-02-0 nickel
Product name: Diamond Tools - Very Fine and Fine, Metal Bond

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Environment protection department.
· Contact: Kim Dermit
· Date of preparation / last revision 03/27/2019 / -
· Abbreviations and acronyms:
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  NIOSH: National Institute for Occupational Safety
  OSHA: Occupational Safety & Health
  TLV: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit
  BEI: Biological Exposure Limit
  Acute Tox. 4: Acute toxicity – Category 4
  Resp. Sens. 1: Respiratory sensitisation – Category 1
  Skin Sens. 1: Skin sensitisation – Category 1
  Carc. 2: Carcinogenicity – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
  Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4