

| MATERIAL SAFETY DATA SHEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------------|----------|----------------|----------|----------------|-----------------|------------|-----------|----|--|-------------|-----------|-----------|-----|--|-----|--|--|---|--|--------|--|--|-----|--|-----------|---------|------------|----------|----------------|-----------------|------------|-----------|----|--|-------------|-----------|-----------|---|--|-----------|---------|------------|----------|----------------|--------|-----------|-----------|------|--|---------|-----------|-----------|------|--|-----------|-----------|-----------|------|--|------------|-----------|-----------|-------|--|--------|-----------|-----------|-------|--|----------|-----------|-----------|-------|--|--------|-----------|-----------|------|--|
| - Format by FEPA as per EC Directive 91/155/CEE and ISO-Standard 11014 - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>COMPANY: Master Abrasives Ltd. ADDRESS: Long March Ind. Est. Daventry NN11 4PG PHONE: 01327 703813</p> <p>AUTHORISED PERSON: A B Collins E-mail bcollins@master-abrasives.co.uk</p> <p style="text-align: center;">Quality Manager</p> <p>Position:</p> | <p>Issue Date:</p> <p style="text-align: center;">06/05/2016</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>IMPORTANT NOTICE: These products are inert products which do not create any risk when handled or stored. When used on machines they require specific measures to protect the operators. During the machining operation 90% or more of the particulates of the dust come from the material being machined, and for wet grinding, from aerosols generated by the grinding fluid. Specific attention must therefore be given to the nature of the part and of the fluid and the appropriate equipment to extract these generated materials must be installed.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. PRODUCT IDENTIFICATION Tungsten Carbide Burrs</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>2. COMPOSITION/INFORMATION OF INGREDIENTS</p> <p>Solid Carbide – SF15A</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Substance</th> <th>CAS No.</th> <th>EINECS No.</th> <th>% Weight</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Wolfram Carbide</td> <td>12070-12-1</td> <td>235-123-0</td> <td>89</td> <td></td> </tr> <tr> <td>Cobalt (Co)</td> <td>7440-48-4</td> <td>231-158-0</td> <td>9.8</td> <td></td> </tr> <tr> <td>PaC</td> <td></td> <td></td> <td>1</td> <td></td> </tr> <tr> <td>Others</td> <td></td> <td></td> <td>0.2</td> <td></td> </tr> </tbody> </table> <p>Brazed Head – YG8</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Substance</th> <th>CAS No.</th> <th>EINECS No.</th> <th>% Weight</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Wolfram Carbide</td> <td>12070-12-1</td> <td>235-123-0</td> <td>92</td> <td></td> </tr> <tr> <td>Cobalt (Co)</td> <td>7440-48-4</td> <td>231-158-0</td> <td>8</td> <td></td> </tr> </tbody> </table> <p>Shank – Stainless Steel</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Substance</th> <th>CAS No.</th> <th>EINECS No.</th> <th>% Weight</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Carbon</td> <td>7440-44-0</td> <td>231-153-3</td> <td>0.10</td> <td></td> </tr> <tr> <td>Silicon</td> <td>7740-21-3</td> <td>231-130-8</td> <td>0.66</td> <td></td> </tr> <tr> <td>Manganese</td> <td>7439-96-5</td> <td>231-105-1</td> <td>0.30</td> <td></td> </tr> <tr> <td>Phosphorus</td> <td>7723-14-0</td> <td>231-768-7</td> <td>0.026</td> <td></td> </tr> <tr> <td>Sulfur</td> <td>7704-34-9</td> <td>231-722-9</td> <td>0.007</td> <td></td> </tr> <tr> <td>Chromium</td> <td>7740-47-3</td> <td>231-157-5</td> <td>11.72</td> <td></td> </tr> <tr> <td>Nickel</td> <td>7740-02-0</td> <td>231-111-4</td> <td>0.08</td> <td></td> </tr> </tbody> </table> | | Substance | CAS No. | EINECS No. | % Weight | Classification | Wolfram Carbide | 12070-12-1 | 235-123-0 | 89 | | Cobalt (Co) | 7440-48-4 | 231-158-0 | 9.8 | | PaC | | | 1 | | Others | | | 0.2 | | Substance | CAS No. | EINECS No. | % Weight | Classification | Wolfram Carbide | 12070-12-1 | 235-123-0 | 92 | | Cobalt (Co) | 7440-48-4 | 231-158-0 | 8 | | Substance | CAS No. | EINECS No. | % Weight | Classification | Carbon | 7440-44-0 | 231-153-3 | 0.10 | | Silicon | 7740-21-3 | 231-130-8 | 0.66 | | Manganese | 7439-96-5 | 231-105-1 | 0.30 | | Phosphorus | 7723-14-0 | 231-768-7 | 0.026 | | Sulfur | 7704-34-9 | 231-722-9 | 0.007 | | Chromium | 7740-47-3 | 231-157-5 | 11.72 | | Nickel | 7740-02-0 | 231-111-4 | 0.08 | |
| Substance | CAS No. | EINECS No. | % Weight | Classification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wolfram Carbide | 12070-12-1 | 235-123-0 | 89 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cobalt (Co) | 7440-48-4 | 231-158-0 | 9.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PaC | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Others | | | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Substance | CAS No. | EINECS No. | % Weight | Classification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wolfram Carbide | 12070-12-1 | 235-123-0 | 92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cobalt (Co) | 7440-48-4 | 231-158-0 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Substance | CAS No. | EINECS No. | % Weight | Classification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carbon | 7440-44-0 | 231-153-3 | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Silicon | 7740-21-3 | 231-130-8 | 0.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Manganese | 7439-96-5 | 231-105-1 | 0.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phosphorus | 7723-14-0 | 231-768-7 | 0.026 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulfur | 7704-34-9 | 231-722-9 | 0.007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chromium | 7740-47-3 | 231-157-5 | 11.72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nickel | 7740-02-0 | 231-111-4 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>3. HAZARDS IDENTIFICATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Copyright: FEPA, 20 Avenue Reille F-75014 Paris 51 – GB – 95</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|--|--|
| <p>4.</p> | <p>FIRST AID MEASURES</p> <p>APPLICABLE WHEN PRODUCTS ARE IN USE ON MACHINES</p> <p>The following recommendations are basic rules during a cutting operation; they must be followed in conjunction with the information appearing in the Safety data sheets of the material being machined and of the cutting fluid when used.</p> <ul style="list-style-type: none"> - Dust inhalation Remove from exposure, seek medical service if symptoms persist: - Eye: Remove from exposure and flush with clean water. If symptoms persist seek medical advice. - Skin: If irritation or rash appears seek medical advice. - Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential for causing blood, heart and other organ problems. If substantial quantities are swallowed: dilute with a large amount of water and seek medical attention. |
| <p>5.</p> | <p>FIRE FIGHTING MEASURES</p> <p>None Specific Water, Powder, Foam, Sand, Co₂, etc can be used if compatible with operating conditions Use full protective clothing and a positive pressure self contained breathing apparatus.</p> |
| <p>6.</p> | <p>ACCIDENTAL RELEASE MEASURES</p> <p>Not Applicable</p> |
| <p>7.</p> | <p>HANDLING AND STORAGE</p> <p>The following recommendations should be followed to prevent damage to products which may create a risk of rupture when in use.</p> <ul style="list-style-type: none"> - Handle and store with care. - Store at moderate temperature and humidity. |
| <p>8.</p> | <p>EXPOSURE CONTROL/PERSONAL PROTECTION</p> <p>NOT APPLICABLE WHEN PRODUCTS ARE HANDLED OR STORED.</p> <p>When using products, refer to the machines instructions and to the rules to prevent accidents in the work place. For safe use of products refer to the FEPA SAFETY CODE and LEAFLETS and national regulations.</p> |
| <p>Copyright: FEPA, 20 Avenue Reille F-75014 Paris 51 – GB – 95</p> | |

| | | |
|--|--|--|
| 8.1 | The following personal protective equipment should be used dependent on the operation and the material being cut. | |
| | - Eye protection: | Machine guarding and safety goggles or face shield |
| | - Dust protection: | Use of dust mask |
| | - Hand protection: | Use of barrier cream or protective gloves |
| | - Ears protection: | Use of ear muffs or equivalent |
| | - Skin protection: | Use of suitable protective clothing |
| 8.2 | Hygiene measures: | No specific requirements |
| 9. | PHYSICAL AND CHEMICAL PROPERTIES | |
| 9.1 | Physical state: | Solid |
| 9.2 | Colour: | Silver / Grey Metallic |
| 9.3 | Odour: | Not Applicable |
| 9.4 | pH: | Not Applicable |
| 9.5 | Change of physical state: | Not Applicable |
| 9.6 | Density: | 14.48g/cm |
| 9.7 | Bulk Density | Not Applicable |
| 9.8 | Vapour pressure: | Not Applicable |
| 9.9 | Flash point: | Not Applicable |
| 9.10 | Explosion properties: | Not Applicable |
| 9.11 | Viscosity: | Not Applicable |
| 9.12 | Solubility in water: | Insoluble |
| 10. | STABILITY AND REACTIVITY | |
| | Stable and non reactive when handled or stored. | |
| 10.1 | Conditions to avoid. Excessive heat or humidity. Inappropriate use may cause rupture | |
| 10.2 | Materials to avoid: Strong acids, Strong bases. Strong oxidising agents may modify the mechanical characteristics of the products and create safety hazards when used on machines, | |
| 10.3 | Hazardous decomposition products: If used in accordance with instructions no hazardous decomposition products are created. | |
| 10.4 | Other indications: Not Applicable | |
| Copyright: FEPA, 20 Avenue Reille F-75014 Paris | | |
| 51 – GB – 95 | | |

| | |
|---|--|
| 11. | TOXICOLOGICAL INFORMATION NOT APPLICABLE WHEN HANDLED OR STORED. These products when properly used have no adverse effect on health. Refer to the preliminary note about dust and aerosols of cutting fluids. |
| 12. | ECOLOGICAL INFORMATION |
| 12.1 | Mobility: Not Applicable |
| 12.2 | Persistence and degradability: Not Applicable |
| 12.3 | Bio accumulative potential: Not Applicable |
| 12.4 | Ecotoxicity: Not Applicable |
| 13 | DISPOSAL CONSIDERATIONS After use the product may be contaminated with hazardous materials (particles of material cut or cooling agents) and should be disposed of in accordance with national and local regulations. |
| 14. | TRANSPORT These are not dangerous products and no specific regulations for any type of transportation are required. Protect from rain and excessive temperature and humidity. No special precautions necessary other than to insure that no damage to the product occurs. |
| 15. | REGULATORY INFORMATION EC Regulations: NONE, no specific marking required under EC directive N° 88/379 National or Local Regulations: Refer to relevant texts. |
| 16. | OTHER INFORMATION The information contained in this Material Safety Data Sheet is based on the existing practice and do not constitute a guarantee. The laws and regulations must be strictly followed by the users who remain responsible for the use of the product. |
| Copyright: FEPA, 20 Avenue Reille F-75014 Paris 51 – GB – 95 | |