### Environmental Protection Agency

**§ 421.314**

**BAT LIMITATIONS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY**

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>45.80</td>
<td>21.83</td>
</tr>
<tr>
<td>Nickel</td>
<td>19.68</td>
<td>13.24</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>4,770.00</td>
<td>2,097.00</td>
</tr>
<tr>
<td>Cobalt</td>
<td>98.756</td>
<td>43.295</td>
</tr>
<tr>
<td>Tungsten</td>
<td>124.50</td>
<td>55.46</td>
</tr>
</tbody>
</table>

(h) Crystallization decant.

**BAT LIMITATIONS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY**

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<th>Maximum for any 1 day</th>
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</thead>
<tbody>
<tr>
<td>Copper</td>
<td>53,310</td>
<td>25,410</td>
</tr>
<tr>
<td>Nickel</td>
<td>22,910</td>
<td>10,510</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>5,552.000</td>
<td>2,441.000</td>
</tr>
<tr>
<td>Cobalt</td>
<td>114,954</td>
<td>50,397</td>
</tr>
<tr>
<td>Tungsten</td>
<td>144,900</td>
<td>64,560</td>
</tr>
</tbody>
</table>

(i) Acid wash decant.

**BAT LIMITATIONS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY**

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<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>24,400</td>
<td>11,630</td>
</tr>
<tr>
<td>Nickel</td>
<td>10,490</td>
<td>7,053</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>5,241.000</td>
<td>2,311.000</td>
</tr>
<tr>
<td>Cobalt</td>
<td>52,611</td>
<td>23,085</td>
</tr>
<tr>
<td>Tungsten</td>
<td>66,340</td>
<td>29,550</td>
</tr>
</tbody>
</table>

(j) Cobalt hydroxide filtrate.

**BAT LIMITATIONS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY**

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<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>72,510</td>
<td>34,560</td>
</tr>
<tr>
<td>Nickel</td>
<td>31,160</td>
<td>20,960</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>7,551.000</td>
<td>3,320.000</td>
</tr>
<tr>
<td>Cobalt</td>
<td>156,346</td>
<td>68,543</td>
</tr>
<tr>
<td>Tungsten</td>
<td>197,100</td>
<td>87,900</td>
</tr>
</tbody>
</table>

(k) Cobalt hydroxide filter cake wash.

### § 421.314 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Tungsten detergent wash and rinse.

**NSPS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY**

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<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>0.250</td>
<td>0.119</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.107</td>
<td>0.072</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>25,990</td>
<td>11,430</td>
</tr>
<tr>
<td>Cobalt</td>
<td>0.538</td>
<td>0.236</td>
</tr>
<tr>
<td>Tungsten</td>
<td>0.679</td>
<td>0.302</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>1.950</td>
<td>1.950</td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>2.925</td>
<td>2.340</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

1 Within the range of 7.5 to 10.0 at all times.

(b) Tungsten leaching acid.

**NSPS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY**

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<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>3.291</td>
<td>1.569</td>
</tr>
<tr>
<td>Nickel</td>
<td>1.414</td>
<td>0.951</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>342.700</td>
<td>150.700</td>
</tr>
<tr>
<td>Cobalt</td>
<td>7.096</td>
<td>3.111</td>
</tr>
<tr>
<td>Tungsten</td>
<td>8.947</td>
<td>3.985</td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>25,710</td>
<td>25,710</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

1 Within the range of 7.5 to 10.0 at all times.
### § 421.314

(c) Tungsten post-leaching wash and rinse.

**NSPS for the Secondary Tungsten and Cobalt Subcategory**

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>mg/kg (pounds per million pounds) of tungsten produced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>6.583</td>
<td>3.137</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.829</td>
<td>1.903</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>685.600</td>
<td>301.400</td>
</tr>
<tr>
<td>Tungsten</td>
<td>17.900</td>
<td>7.972</td>
</tr>
<tr>
<td>Cobalt</td>
<td>14.194</td>
<td>6.223</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>51.430</td>
<td>51.430</td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>77.150</td>
<td>61.720</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

1 Within the range of 7.5 to 10.0 at all times.

(d) Synthetic scheelite filtrate.

**NSPS for the Secondary Tungsten and Cobalt Subcategory**

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>mg/kg (pounds per million pounds) of synthetic scheelite produced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>21.330</td>
<td>10.170</td>
</tr>
<tr>
<td>Nickel</td>
<td>9.164</td>
<td>6.165</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>2,221,000</td>
<td>976,300</td>
</tr>
<tr>
<td>Cobalt</td>
<td>45.984</td>
<td>20.160</td>
</tr>
<tr>
<td>Tungsten</td>
<td>57.980</td>
<td>25.820</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>166.600</td>
<td>166.600</td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>249.900</td>
<td>199.900</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

1 Within the range of 7.5 to 10.0 at all times.

(e) Tungsten carbide leaching wet air pollution control.

**NSPS for the Secondary Tungsten and Cobalt Subcategory**

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<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>mg/kg (pounds per million pounds) of cobalt produced from cobalt sludge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>45.80</td>
<td>21.83</td>
</tr>
<tr>
<td>Nickel</td>
<td>19.68</td>
<td>13.24</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>4,770.00</td>
<td>2,097.00</td>
</tr>
<tr>
<td>Cobalt</td>
<td>98.75</td>
<td>43.295</td>
</tr>
<tr>
<td>Tungsten</td>
<td>124.50</td>
<td>55.46</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>357.80</td>
<td>357.80</td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>536.70</td>
<td>429.40</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
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1 Within the range of 7.5 to 10.0 at all times.

(f) Tungsten carbide wash water.

(g) Cobalt sludge leaching wet air pollution control.

**NSPS for the Secondary Tungsten and Cobalt Subcategory**

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<td>mg/kg (pounds per million pounds) of cobalt produced</td>
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<td></td>
</tr>
<tr>
<td>Copper</td>
<td>53.310</td>
<td>25.410</td>
</tr>
<tr>
<td>Nickel</td>
<td>22.910</td>
<td>15.410</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>5,552.00</td>
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<tr>
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<td>43.295</td>
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<td>pH</td>
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(h) Crystallization decant.

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<td>429.40</td>
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<tr>
<td>pH</td>
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<td>(1)</td>
</tr>
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(i) Acid wash decant.
Environmental Protection Agency

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<tbody>
<tr>
<td></td>
<td>mg/kg (pounds per million pounds) of cobalt produced</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>24.400 11.630</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>10.490 7.033</td>
<td></td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>2,541.000 1,117.000</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>52.611 29.550</td>
<td></td>
</tr>
<tr>
<td>Tungsten</td>
<td>66.340 29.550</td>
<td></td>
</tr>
<tr>
<td>Oil and grease</td>
<td>190.600 190.600</td>
<td></td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>285.900 228.700</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>(1) (1)</td>
<td></td>
</tr>
</tbody>
</table>

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(j) Cobalt hydroxide filtrate.

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<td></td>
<td>mg/kg (pounds per million pounds) of cobalt produced</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>72.510 34.560</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>31.160 20.900</td>
<td></td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>7,551.000 3,320.000</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>156.346 68.543</td>
<td></td>
</tr>
<tr>
<td>Tungsten</td>
<td>197.100 87.800</td>
<td></td>
</tr>
<tr>
<td>Oil and grease</td>
<td>566.500 566.500</td>
<td></td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>849.700 679.800</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>(1) (1)</td>
<td></td>
</tr>
</tbody>
</table>

1 Within the range of 7.5 to 10.0 at all times.

(k) Cobalt hydroxide filter cake wash.

NSPS FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY

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<tbody>
<tr>
<td></td>
<td>mg/kg (pounds per million pounds) of cobalt produced</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>139.600 66.510</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>59.970 40.340</td>
<td></td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>14,500.000 6,390.000</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>300.094 131.932</td>
<td></td>
</tr>
<tr>
<td>Tungsten</td>
<td>379.400 169.000</td>
<td></td>
</tr>
<tr>
<td>Oil and grease</td>
<td>1,090.000 1,090.000</td>
<td></td>
</tr>
<tr>
<td>Total suspended solids</td>
<td>1,636,000 1,308.000</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>(1) (1)</td>
<td></td>
</tr>
</tbody>
</table>

1 Within the range of 7.5 to 10.0 at all times.

(b) Tungsten leaching acid.

PSES FOR THE SECONDARY TUNGSTEN AND COBALT SUBCATEGORY

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mg/kg (pounds per million pounds) of tungsten produced</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>0.250 0.119</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>0.107 0.072</td>
<td></td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>25.990 11.430</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>0.538 0.236</td>
<td></td>
</tr>
<tr>
<td>Tungsten</td>
<td>0.679 0.302</td>
<td></td>
</tr>
</tbody>
</table>

(c) Tungsten post-leaching wash and rinse.

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<td>mg/kg (pounds per million pounds) of tungsten produced</td>
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</tr>
<tr>
<td>Copper</td>
<td>3.291 1.569</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>1.414 0.951</td>
<td></td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>342.700 150.700</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>7.096 3.111</td>
<td></td>
</tr>
<tr>
<td>Tungsten</td>
<td>8.947 3.985</td>
<td></td>
</tr>
</tbody>
</table>

(d) Synthetic scheelite filtrate.

§ 421.315 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7, any existing source subject to this sub-