Mobil Industrial Lubricants for Metalworking

Formulated with high-quality base oils and high-performance additive systems, Mobil long-life, aqueous metalworking fluids have been developed to enhance your precision machine cutting, helping you to be more efficient, productive — and profitable.

Mobilcut 100 Series
Conventional milky soluble cutting fluid, primarily recommended for machining easy-to-machine steels and copper-based alloys in low to moderate operations such as milling, turning, sawing, boring, drilling, and reaming.

Mobilcut 140 Series
High-performance, long-life, milky soluble cutting fluid, recommended for machining ferrous and nonferrous metals in low- to moderate-severity operations such as milling, turning, sawing, boring, drilling, and reaming.

Mobilcut 210 Series
High-performance, long-life cutting and grinding fluid. Used for ferrous/nonferrous metals in centralized or individual machines. Low oil content product that offers a tight emulsion to help keep grinding wheels clean. Well suited for cast iron.

Mobilcut 230 Series
High-performance, flexible, long-life, semi-synthetic cutting fluid, recommended for machining a wide variety of steels, cast irons and nonferrous materials. Easy to monitor and maintain.

Mobilcut 250 Series
Versatile semisynthetic cutting fluid primarily intended for the machining of aluminum and aluminum alloys. Mobilcut 250 may also be used on a wide variety of ferrous materials where multipurpose applicability is required.

Mobilcut 320 Series
Synthetic (no oil) grinding fluid, primarily recommended for surface grinding of ferrous metals and cast iron.

Mobilcut 350 Series
High-performance, bio-stable synthetic cutting and grinding fluid, primarily recommended for operations where a higher-performing fluid is required for modern machining equipment.

Recommended Concentrations
Mobilcut Series products are provided as a concentrate and must be mixed with water before use. Typical concentration ranges are provided in the table below. For additional recommendations, consult the technical help desk or your local ExxonMobil representative.

<table>
<thead>
<tr>
<th>Concentration Series</th>
<th>Low alloy steels - milling, turning</th>
<th>Carbon/alloy steels - difficult machining</th>
<th>Aluminum machining</th>
<th>Cylindrical &amp; surface grinding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilcut 100</td>
<td>5–10%</td>
<td>5–10%</td>
<td>5–10%</td>
<td>3–5%</td>
</tr>
<tr>
<td>Mobilcut 140</td>
<td>4–6%</td>
<td>6–12%</td>
<td>6–15%</td>
<td></td>
</tr>
<tr>
<td>Mobilcut 200</td>
<td>4–6%</td>
<td>6–12%</td>
<td>6–12%</td>
<td>4–6%</td>
</tr>
<tr>
<td>Mobilcut 230</td>
<td>4–8%</td>
<td>5–8%</td>
<td>4–8%</td>
<td>4–6%</td>
</tr>
<tr>
<td>Mobilcut 250</td>
<td>6–8%</td>
<td>6–10%</td>
<td>6–10%</td>
<td>3–6%</td>
</tr>
<tr>
<td>Mobilcut 320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobilcut 350</td>
<td>4–6%</td>
<td>6–8%</td>
<td>6–8%</td>
<td>3–5%</td>
</tr>
</tbody>
</table>

For more information on Mobilcut Series and other Mobil Industrial Lubricants and services, please contact your local company representative or visit mobilindustrial.com.
**Machine Preparation**

**Using a System Cleaner**

(please follow instructions carefully)

1. Introduce the emulsion system cleaner at the recommended percentage solution into the machine. Circulate for up to 48 hours.

2. Pump out all used emulsion and washings. Remove all oily waste and swarf from the machine sump.

3. If possible, repeat cleaning procedure with a fresh solution of system cleaner in clean water and circulate for one to two hours.

4. Clean the machine completely and flush with fresh diluted coolant.

5. Introduce new coolant into the machine at the correct concentration.

---

**Coolant Maintenance and Monitoring**

**Daily and Weekly Actions**

1. Check concentration of coolant with a refractometer at the beginning of every day/shift.

2. Check pH with pH meter or pH paper at the beginning of every day/shift.

3. Check water and coolant hardness with water hardness test strips every week.

4. Remove as much tramp oil as possible every week after the coolant has been static for one hour.

5. Always top up with diluted coolant, never with just water.

6. Keep records of coolant maintenance using monitoring charts. Take timely corrective actions as required.

---

**Troubleshooting Guide**

### Observation

**Routine monitoring**

<table>
<thead>
<tr>
<th>Index</th>
<th>Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>H=high</td>
<td>L=low</td>
</tr>
</tbody>
</table>

**Corrective action**

- Investigate potential leaks
- Replace or change coolant
- Eliminate source of contamination

**Cyan**

**Magenta**

**Yellow**

**Black**

---

**Effective cooling management will help you reduce waste and maximize performance.**

---

**Using a System Cleaner**

(please follow instructions carefully)

1. Introduce the emulsion system cleaner at the recommended percentage solution into the machine. Circulate for up to 48 hours.

2. Pump out all used emulsion and washings. Remove all oily waste and swarf from the machine sump.

3. If possible, repeat cleaning procedure with a fresh solution of system cleaner in clean water and circulate for one to two hours.

4. Clean the machine completely and flush with fresh diluted coolant.

5. Introduce new coolant into the machine at the correct concentration.

---

**Troubleshooting Guide**

**Daily and Weekly Actions**

1. Check concentration of coolant with a refractometer at the beginning of every day/shift.

2. Check pH with pH meter or pH paper at the beginning of every day/shift.

3. Check water and coolant hardness with water hardness test strips every week.

4. Remove as much tramp oil as possible every week after the coolant has been static for one hour.

5. Always top up with diluted coolant, never with just water.

6. Keep records of coolant maintenance using monitoring charts. Take timely corrective actions as required.

---

**For example, if corrosion is observed:**

**Step 1** The highest priority box is red with an L designation, low concentration.

**Step 2** If the concentration test result is lower than the recommended dilution, low concentration is the cause of the observation.

**Step 3** For low concentration, the appropriate corrective action is to correct the concentration back to the recommended dilution.

**Step 4** If the concentration test result is not lower than the recommended dilution, concentration is not the cause of the observation. Going back to Step 1 with the next priority observation (green box with L designation), the coolant would be checked for low pH.

---

This is intended as a guide only. Please contact your ExxonMobil distributor before any major change or addition is made to a Mobil product.