**LIQUID-ICE® XP MACHINING COOLANT AND LUBRICANT**

**LIQUID-ICE® XP** is an alternative to oil-based or semi-synthetic coolants. This fully water-soluble coolant has superb cooling properties and a high grade of lubricity. **LIQUID-ICE® XP** has been formulated to provide clear, clean chip flow, with no stickiness on machinery, parts or cutting chips. **LIQUID-ICE® XP** contains special inhibitors to prevent copper salts from leaching from yellow alloys, (Brass, Bronze and Copper) **LIQUID-ICE® XP** provides the optimum in tarnish and corrosion prevention on all ferrous and non-ferrous metals. **LIQUID-ICE® XP** has been engineered to be environmentally responsible and safe to operators. It does not create mists, vapors or odors.

- Best Anti-Foaming Characteristics in the Industry, even under 1000 PSI high pressure applications.
- Increased Cooling Capability resulting in better process control and Tool Life*.
- XP is Clean and non-sticky eliminating the need of washing machined parts before painting, welding or heat treating.
- Long sump life and easy to maintain.
- Long lasting Corrosion Protection without the need of expensive tank side additives. Specially engineered to protect Brass, Bronze and Copper parts.
- Environmentally friendly, does not create mists in the air.
- Extremely Safe for Operators and Machinery, no solvents or dyes.
- Crystal Clear in appearance allowing excellent visibility of the machining process

**Applications:** All machining applications involving ferrous and non-ferrous metals.

**Application Data:** **LIQUID-ICE® XP** should be flooding the surface of the cutting tool and material to be machined at all times.

**Recommended Dilution Rates:** Concentrations for Ferrous or Non Ferrous metals (aluminum, brass, steel or stainless) ranging from 8% - 12% (11:1 - 7:1) *Each situation will vary depending upon the specific water-hardness, type of machining and specific application.*

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Dilution Ratio</th>
<th>Refractometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>19:1</td>
<td>1.7</td>
</tr>
<tr>
<td>6%</td>
<td>14:1</td>
<td>2.0</td>
</tr>
<tr>
<td>8%</td>
<td>11:1</td>
<td>2.7</td>
</tr>
<tr>
<td>10%</td>
<td>9:1</td>
<td>3.4</td>
</tr>
<tr>
<td>12%</td>
<td>7:1</td>
<td>4.0</td>
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</tbody>
</table>

It is recommended to charge the system at 10%, to maintain functionality of the XP Inhibitors.

**Environmental Data:** **LIQUID-ICE® XP**'s ingredients are highly biodegradable according to EPA, DIN, ASTM, or standard methods, are harmless to the environment, and contain no hazardous or toxic materials.

XP DATA SHEET, REVISION 5/01/2014
ASSUMPTIONS:

SYSTEM CAPACITY 30 GALLONS; CHARGED WITH 10% COOLANT (10:1)
DAILY LOSS OF SYSTEM VOLUME IS 10% OF CAPACITY; OF WHICH 90%
IS WATER. DAILY COOLANT MAKE UP IS MADE USING WATER ONLY
RESULTING IN LOSS OF CONCENTRATION AS SHOWN ABOVE