

# CIMCOOL<sup>®</sup>

## METALWORKING FLUIDS

### CIMPERIAL<sup>®</sup> HD90

SOLUBLE OIL, METALWORKING FLUID CONCENTRATE

<b>APPLICATIONS</b>	<p><b>CIMPERIAL<sup>®</sup> HD90</b> metalworking fluid is a premium soluble oil, which forms a milky mix in water. CIMPERIAL<sup>®</sup> HD90 is used for grinding and machining operations, central systems or individual machines.</p> <p><b>Metals:</b> Carbon Steels, High Speed Steel, Alloy Steels, Tool Steel, Stainless Steel (It is also non-staining to some aluminum and copper alloys.)</p> <p><b>Duty Range:</b> For heavy to extremely heavy-duty operations</p>
<b>FEATURES &amp; BENEFITS</b>	<p><b>CIMPERIAL<sup>®</sup> HD90</b> contains a high degree of extreme pressure (EP) lubricity making it excellent for heavy to extremely heavy-duty grinding operations such as centerless, form, creep-feed, center type operations. In addition CIMPERIAL<sup>®</sup> HD90 is excellent for low-speed, low clearance machining operations such as threading, tapping, broaching, reaming, gun drilling and gear hobbing.</p> <p><b>LUBRICITY</b> - Exhibits an excellent grinding ratio when compared to both straight oils and conventional soluble oils - Increased productivity because high speeds and feeds can be used - The better cooling and cleaning ability provide higher stock removal rates and better finishes than straight oils</p> <p><b>CORROSION PROTECTION</b> - Excellent protection by a combination of chemical corrosion inhibitors and the physical protection of oil - No black staining problems like those associated with sulfurized cutting oils</p> <p><b>MACHINE FRIENDLY</b> - Cleaner machines and work areas making for a more pleasant work environment - Residue can be removed with water or alkaline cleaners; no solvent degreasers required as with straight oils</p> <p><b>COST EFFECTIVE</b> - Provides higher productivity and improved cleanliness compared to straight oils - Avoids housekeeping problems and fire hazards of straight oils</p>

<p><b>RECOMMENDED STARTING DILUTIONS</b></p>	<p><b>FOR INDUSTRIAL USE ONLY</b>  <b>Use between 5.0% (1:20) and 10.0% (1:10) for machining and grinding ferrous and nonferrous metals.</b></p> <p><b>CIMPERIAL® HD90</b> is to be mixed with water for use (add concentrate to water).</p> <p>Add no other substances to the concentrate or mix unless approved by CIMCOOL® Technical Services. Not recommended for use with magnesium or alloyed magnesium.</p> <p><b>For concentration analysis, use the MI Titration Procedure, Non-Solvent Titration Procedure, Total Alkalinity Titration Procedure, CIMCHEK™ Test Strip, or Refractometer.</b></p>
<p><b>TYPICAL PHYSICAL AND CHEMICAL PROPERTIES</b></p>	<p><b>Physical state:</b> Liquid  <b>Appearance and odor:</b> Clear, brown/chemical  <b>Colors available:</b> Undyed  <b>Solubility in water:</b> 100% Miscible  <b>Weight, lb/gal, 60°F (15.6°C):</b> 8.51  <b>Specific gravity, (H<sub>2</sub>O = 1):</b> 1.020  <b>Boiling point, °F (°C):</b> NA  <b>Flash point, COC, °F (°C):</b> 300 (149)  <b>Fire point, COC, °F (°C):</b> 395 (202)  <b>Extinguishing media:</b> Chemical foam, carbon dioxide, water fog, dry chemical  <b>Unusual fire &amp; explosion hazards:</b> None  <b>Freezing point (or pour point), °F, (°C):</b> 24 (-4)          If frozen, product separates. Thaw completely at room temperature and stir thoroughly.  <b>pH, concentrate:</b> NA  <b>pH, 5.0% mix, typical operating conditions:</b> 8.9  <b>Total chlorine/chloride, wt%, calculated:</b> 6.78/&lt; 50 ppm  <b>Total sulfur, wt%, calculated:</b> 2.50  <b>Silicones:</b> None</p>
<p><b>PACKAGING</b></p>	<p><b>Available in 5-gallon pails, 55-gallon drums, and bulk containers.</b></p>
<p><b>REFRACTOMETER FACTOR = 0.9</b> Multiply the scale reading obtained on your CIMCOOL® Metalworking Fluid or other acceptable refractometer by the <b>Refractometer Factor</b> to obtain the mix concentration in percent.</p> <p><b>NOTE: Calibrate the refractometer so that it reads 0.0 with water, before testing the sample mix. Remove gross contaminants from the sample mix, before testing.</b></p>	
<p>For additional information concerning CIMPERIAL® HD90, refer to its OSHA MSDS or contact CIMCOOL® Technical Services at 1-513-458-8199.</p> <p>Minor formulation changes or normal variations in the manufacture of this product may cause slight variances in the data presented on this sheet.          Consumable Products Division/ Milacron Marketing Company          Cincinnati, Ohio 45209</p> <p><b>PC-9864-1 10/9/01</b></p>	