

# CIMCOOL<sup>®</sup>

## METALWORKING FLUIDS

### CIMPERIAL<sup>®</sup> 20

#### SOLUBLE OIL, METALWORKING FLUID CONCENTRATE

<b>APPLICATIONS</b>	<p><b>CIMPERIAL<sup>®</sup> 20</b> metalworking fluid is a premium soluble oil, which forms a milky mix in water. CIMPERIAL<sup>®</sup> 20 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 many 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> 20</b> contains a high degree of extreme pressure (EP) lubricity making it excellent for low-speed, low clearance machining operations such as threading, tapping, broaching, reaming, gun drilling and gear hobbing. It is also recommended for diamond dressed form grinding operations such as ball track grinding of bearing races and bar grinding.</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>Note:</b> CIMPERIAL<sup>®</sup> 20B has the same performance characteristics as CIMPERIAL<sup>®</sup> 20 but in addition, is designed to be low foaming in soft water (50 ppm hardness)</p>

<p><b>RECOMMENDED STARTING DILUTIONS</b></p>	<p><b>FOR INDUSTRIAL USE ONLY</b>  <b>Recommended Starting Dilution: 5% (1:20)</b>  <b>Typical Operating Range: 5% (1:20) to 10% (1:10)</b>  <b>For concentrations outside this range contact CIMCOOL® Technical Service at 513-458-8199.</b></p> <p><b>CIMPERIAL® 20</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</b> the MI Titration Procedure, Non-Solvent Titration Procedure, Total Alkalinity Titration Procedure, CIMCHEK™ Test Strip, or Refractometer.</p>
<p><b>TYPICAL PHYSICAL AND CHEMICAL PROPERTIES</b></p>	<p><b>Physical state:</b> Liquid  <b>Appearance and odor:</b> Clear / Chemical  <b>Colors available:</b> Undyed  <b>Solubility in water:</b> 100% Miscible  <b>Weight, lb/gal, 60°F (15.6°C):</b> 8.3  <b>Specific gravity, (H<sub>2</sub>O = 1):</b> 1.00  <b>Boiling point, °F (°C):</b> Not Applicable  <b>Flash point, COC, °F (°C):</b> 345 (174)  <b>Fire point, COC, °F (°C):</b> 370 (188)  <b>Freezing point (or pour point), °F, (°C):</b> 16 (-9)  If frozen, product separates. Thaw completely at room temperature and stir thoroughly.  <b>pH, concentrate:</b> Not Applicable  <b>pH, 5.0% mix, typical operating conditions:</b> 8.7  <b>Total chlorine/chloride, wt%, calculated:</b> 5.20/&lt; 50 ppm  <b>Total sulfur, wt%, calculated:</b> 3.19  <b>Silicones:</b> No for CIMPERIAL® 20 / Yes for CIMPERIAL® 20B</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® 20, refer to its OSHA MSDS or contact CIMCOOL® Technical Services at 1-513-458-8199. Reprints/Updates of this Product Information Flyer (PIF) can be found on our web site, <a href="http://WWW.CIMCOOL.COM">WWW.CIMCOOL.COM</a> or from your Milacron representative.</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-809 4/15/08</b></p>	