

# CIMCOOL®

## METALWORKING FLUIDS

### CIMSTAR® QUAL STAR® LF SEMISYNTHETIC, METALWORKING FLUID CONCENTRATE

<b>APPLICATIONS</b>	<p><b>CIMSTAR® QUAL STAR® LF</b> is recommended for general-purpose machining and grinding of ferrous metals.</p> <p><b>Metals:</b> Cast Iron, Nodular Iron, Carbon Steels, High Speed Steel, High Alloy Steels, Stainless Steels, Aluminum</p> <p><b>Duty Range:</b> For moderate to heavy -duty operations</p>
<b>FEATURES &amp; BENEFITS</b>	<p><b>CIMSTAR® QUAL STAR® LF</b> is a new-generation semi synthetic metalworking fluid. It blends the technological advantages of modern day synthetic fluids with the performance capabilities of soluble oils. Designed to be low foaming in soft water (less than 125-ppm total hardness).</p> <p><b>LUBRICITY</b> - Physical and chemical lubricants provide good machining and grinding properties - Keeps parts and tools cool</p> <p><b>EXCEPTIONALLY MILD</b> - Ideal for individual machine applications - Can be used in central system applications</p> <p><b>EXCELLENT FERROUS CORROSION CONTROL</b> - Rust inhibitor package is extremely effective in preventing in-process rust on machines and parts - Effective on cast/malleable/gray/nodular irons</p> <p><b>NON-FERROUS CORROSION CONTROL</b> - Contains non-ferrous corrosion inhibitors which prevent stain on aluminum alloys, brass, copper and bronze</p> <p><b>SUPERIOR RANCIDITY CONTROL</b> - Effective protection against bacteria and mold</p> <p><b>GENERAL-PURPOSE PRODUCT</b> - Can be used economically throughout the shop on light, moderate and some heavy -duty operations; just vary the dilution to suit the job requirements</p> <p><b>MACHINE FRIENDLY</b> - Liquid residue keeps machine tool components free moving</p> <p><b>ENVIRONMENTALLY FRIENDLY</b> - Can be recycled for reuse</p> <p><b>Note:</b> CIMSTAR® QUAL STAR® LFB has the same performance characteristics as CIMSTAR® QUAL STAR® LF 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>CIMSTAR® QUAL STAR® LF</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> Hazy / Chemical  <b>Colors available:</b> Undyed, Pink  <b>Solubility in water:</b> 100% Miscible  <b>Weight, lb/gal, 60°F (15.6°C):</b> 8.45  <b>Specific gravity, (H<sub>2</sub>O = 1):</b> 1.013  <b>Boiling point, °F (°C):</b> 212 (100)  <b>Flash point, COC, °F (°C):</b> None, Self Extinguishing  <b>Fire point, COC, °F (°C):</b> NA  <b>Freezing point (or pour point), °F, (°C):</b> 30 (-1)          If frozen, thaw completely at room temperature.  <b>pH, concentrate:</b> 9.8  <b>pH, 5.0% mix, typical operating conditions:</b> 8.8  <b>Total chlorine / chloride, wt%, calculated:</b> 0.00 / &lt; 50 ppm  <b>Total sulfur, wt%, calculated:</b> 0.16  <b>Silicones:</b> None for CIMSTAR® QUAL STAR® LF / Yes for CIMSTAR® QUAL STAR® LFB</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 = 1.6</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 ® QUAL STAR® LF, 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>PC-1032 4/11/05</p>	

