

# CIMCOOL®

## METALWORKING FLUIDS

### CIMPERIAL® HD90Z

SOLUBLE OIL, METALWORKING FLUID CONCENTRATE

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| <b>APPLICATIONS</b>            | <p><b>CIMPERIAL® HD90Z</b> metalworking fluid is a premium soluble oil, which forms a milky mix in water. CIMPERIAL® HD90Z 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)</p> <p><b>Duty Range:</b> For heavy to extremely heavy-duty operations</p>   |
| <b>FEATURES &amp; BENEFITS</b> | <p><b>CIMPERIAL® HD90Z</b> contains extreme pressure (EP) additives making it excellent for heavy to extremely heavy-duty grinding operations such as centerless, form, creep-feed, center type operations. In addition CIMPERIAL® HD90Z is excellent for low-speed, low clearance machining operations such as threading, tapping, broaching, reaming, gun drilling and gear hobbing.</p> <p><b>EXCELLENT RANCIDITY CONTROL</b> - Contains a patented microbial control package - Effective protection against bacteria and mold - Provides long life and minimizes the use of additives</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 cleaner 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> |

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| <b>RECOMMENDED STARTING DILUTIONS</b>   | <p><b>FOR INDUSTRIAL USE ONLY</b><br/> <b>Recommended Starting Dilution: 5% (1:20)</b><br/> <b>Typical Operating Range: 5% (1:20) to 10% (1:10)</b><br/> <b>For concentrations outside this range contact CIMCOOL® Technical Service at 513-458-8199.</b></p> <p><b>CIMPERIAL® HD90Z</b> is to be mixed with water for use (add concentrate to water).<br/> Add no other substances to the concentrate or mix unless approved by CIMCOOL® Technical Services.</p> <p>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>   |
| <b>TYPICAL PHYSICAL AND CHEMICAL PROPERTIES</b>   | <p><b>Physical state:</b> Liquid<br/> <b>Appearance and odor:</b> Clear / Chemical<br/> <b>Colors available:</b> Undyed<br/> <b>Solubility in water:</b> 100% Miscible<br/> <b>Weight, lb/gal, 60°F (15.6°C):</b> 8.3<br/> <b>Specific gravity, (H<sub>2</sub>O = 1):</b> 1.00<br/> <b>Boiling point, °F (°C):</b> Not Applicable<br/> <b>Flash point, COC, °F (°C):</b> 370 (188)<br/> <b>Fire point, COC, °F (°C):</b> 395 (202)<br/> <b>Freezing point, °F, (°C):</b> -5 (-21)<br/> If frozen, thaw completely at room temperature.<br/> <b>pH, concentrate:</b> Not Applicable<br/> <b>pH, 5.0% mix, typical operating conditions:</b> 8.9<br/> <b>Total chlorine/chloride, wt%, calculated:</b> 6.67 / &lt; 50 ppm<br/> <b>Total sulfur, wt%, calculated:</b> 2.72<br/> <b>Silicones:</b> None<br/> <b>Dicyclohexylamine:</b> None</p> |
| <b>PACKAGING</b>  | <b>Available in 5-gallon pails, 55-gallon drums, and bulk containers.</b>   |
| <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® HD90Z, 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 style="text-align: center;">Minor formulation changes or normal variations in the manufacture of this product may cause slight variances in the data presented on this sheet.<br/> Consumable Products Division/ Milacron Marketing Company<br/> Cincinnati, Ohio 45209</p> <p><b>PC-9804 7/3/08</b></p> |   |

