



## Technical Product Bulletin

# Bonderite-L-MR 21972

## Water miscible cutting fluid for general machining

<b>Properties:</b>	<p>Bonderite L-MR 21972 is a low-foam mineral oil based general purpose coolant, suitable for a wide range of operations especially in soft water areas (0-30 °GH).</p> <p>Emulsions made from Bonderite L-MR 21972 are nearly odourless. Experiences from the field indicate a long tool life time, excellent surface properties of the machined parts and a low product consumption.</p> <p>Bonderite L-MR 21972 is free of boron and of EP-additives based on chlorine, sulphur or phosphorus.</p>						
<b>Application:</b>	<p>Bonderite L-MR 21972 is mainly used for the machining of aluminium, steel and cast iron. Discoloration of high-silicon containing aluminium alloys is avoided by an inhibitor.</p> <p>For the make-up of emulsions in exact concentrations we recommend the use of a dosing pump.</p>						
<b>Concentration:</b>	<table> <tr> <td>Drilling, Turning:</td> <td>initial charge: 5-7 % topping up: 1-2 %</td> </tr> <tr> <td>Milling, Threading:</td> <td>initial charge: 5-8 % topping up: 1-2 %</td> </tr> <tr> <td>Grinding:</td> <td>initial charge: 3-5 % topping up: 1-2 %</td> </tr> </table>	Drilling, Turning:	initial charge: 5-7 % topping up: 1-2 %	Milling, Threading:	initial charge: 5-8 % topping up: 1-2 %	Grinding:	initial charge: 3-5 % topping up: 1-2 %
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<b>Control:</b>	<p><b>Refractometer:</b> The reading in °Brix multiplied by the product factor 1.2 is equivalent to the concentration in percent.</p> <p><b>Titration:</b> 100 ml of the emulsion are titrated with 0.5 N HCl using an electronic pH-meter down to pH 5.5. The consumption of acid in ml multiplied by the product factor 0.31 is equivalent to the concentration in percent.</p>						

Splitting with acid (DIN 51368):  
100 ml of the emulsion are heated up with conc. hydrochloric acid.  
The reading in ml multiplied by the product factor 1.1 is equivalent  
to the concentration in percent.

### **Technical data**

<b>Concentrate:</b>	Appearance:	yellowish liquid
	Density (20°C), DIN 51757:	0.962 g/cm <sup>3</sup>
	Viscosity (20°C), DIN 53211:	94 mm <sup>2</sup> /s
	Storage:	5 °C to + 40 °C
<b>Emulsion:</b>	Appearance:	white emulsion
	pH-value (3 %, DI-water), DIN 51369:	9.2
	Corrosion protection properties according to DIN 51360/1:	R0/S0 at 5 %
	according to DIN 51360/2:	0/0 at 5 %
<b>Wastewater treatment:</b>	Exhausted cutting fluid emulsions must not be discharged untreated into water. The available state-of-the-art treatment methods include emulsion splitting, membrane methods etc. The wastewater treatment must conform to the local discharger guidelines. Alternatively, the emulsions can be collected separately and disposed of by a specialized company.	
<b>Waste code (EWC):</b>	See safety data sheet.	
<b>Safety information:</b>	Please take note of the information in the safety data sheet and the label on the container.	

### **The expiry date of the product is given on the packaging labels.**

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials used as well as to varying working conditions beyond our control, we strictly recommend to carry out intensive trials to test the suitability of our products with regard to the required processes and applications. We do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases we are liable of gross negligence or false intention.