

## BONDERITE L-MR 71-2

Known as Multan 71-2  
August 2016

### PRODUCT DESCRIPTION

BONDERITE L-MR 71-2 provides the following product characteristics:

<b>Technology</b>	Lubricants
<b>Product Type</b>	Water-miscible cutting fluid for metal working
<b>Application</b>	Grinding, CNC-Machining, Honing etc.

BONDERITE L-MR 71-2 creates a finely dispersed emulsion with a wider range of different water qualities. BONDERITE L-MR 71-2 is free of Cl, S-, and P-containing EP-additives and Formaldehyd Releasing Agents. By using Henkel's patented emulsifier system BONDERITE L-MR 71-2 generates a long lifetime, also because of its high hardwater stability. In general, no addition of Bactericides over the life time of the emulsion is necessary.

The long emulsion life time of BONDERITE L-MR 71-2 in combination with low topping up concentrations reduces the product consumption significantly.

The high lubricity of BONDERITE L-MR 71-2 extends the tool life time and reduces the process costs.

The excellent cleaning performance of BONDERITE L-MR 71-2 keeps the machine clean and reduces the maintenance cost, also e.g. in a following cleaning step.

BONDERITE L-MR 71-2 complies with the German TRGS 611 (Technical Rule for Hazardous Substances 611).

### Application Areas

BONDERITE L-MR 71-2 is a water-miscible cutting fluid for general machining of Aluminium all steel and cast iron materials. Brass and Copper, etc. can be co-machined in a material mix as well.

### TECHNICAL DATA

#### (as supplied):

##### Concentrate:

Density, 20°C, g/cm<sup>3</sup>                      ~0.96  
DIN 51757

Viscosity, (20°C), mm<sup>2</sup> /s                ~122  
DIN 53211

Refractive index                                ~1.4575

##### Emulsion:

Appearance                                    semi transparent

pH-value, (5%, DI water)                 ~9.2  
DIN 51369

#### Corrosion protection properties:

according to DIN 51360/1                    R0/S0 at 3.0%

according to DIN 51360/2                    0/0 at 2.5%

#### Emulsion stability:

according to DIN 51367                        100%

with 3 to 5 g/l NaCl added                    100 %

#### Lubricants Reichert-Waage

##### Steel:

5%, 1.5 kg, (mm<sup>2</sup> )                            22

8%, 1.5 kg, (mm<sup>2</sup> )                            21

##### Aluminium:

5%, 0.1kg, (mm<sup>2</sup> )                            18

### DIRECTION OF USE

#### Preliminary Statement

Prior to use it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

#### Concentration

##### Make up concentration:

5 % to 10 %

(depending on the machining operation and Material)

##### Topping up concentration:

1 % to 2 %

#### Control of the emulsion

##### Refractometer:

The reading in °Brix multiplied by the product factor 1.2 is equivalent to the concentration in percent.

##### Titration:

100 mL of the emulsion are titrated down to pH 5.5 using 0.5 N HCl and an electronic pH-meter. The consumption of acid in mL multiplied by the product factor 0.37 is equivalent to the concentration in percent.

##### Splitting with acid (DIN 51368):

100 mL of the emulsion are heated up with concentrated hydrochloric acid. The reading in mL multiplied by the product factor 1.47 is equivalent to the concentration in percent.

#### Storage

Temperature, °C

+5 to +40

**Classification**

Please refer to the corresponding **Material Safety Data**

**Sheets** for details on:

**Hazards identification**

**Transport information**

**Regulatory information**

**ADDITIONAL INFORMATION****Disclaimer****Note:**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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Reference 0.1