

BONDERITE L-MR 21909

June 2015

PRODUCT DESCRIPTION

BONDERITE L-MR 21909 provides the following product characteristics:

Technology	Lubricants
Product Type	Machining & Grinding Fluids
Application	Grinding, CNC-Machining, Honing etc.

BONDERITE L-MR 21909 is a boron free semi-synthetic general purpose coolant, suitable for a wide range of machining operations and water hardness between 5 and 40° GH.

By using Henkel's patented emulsifier system, BONDERITE L-MR 21909 generate a long lifetime, also because of its high hardwaterstability.

BONDERITE L-MR 21909 is free of EP-additives based on chlorine, sulfur or phosphorus.

The high lubricity of BONDERITE L-MR 21909 extends the tool life time and reduces the process costs.

The excellent cleaning performance of BONDERITE L-MR 21909 keeps the machine clean and reduces the maintenance cost, also e.g. in a following cleaning step.

BONDERITE L-MR 21909 complies with the German TRGS 611 (Technical Rule for Hazardous Substances 611).

Application Areas

BONDERITE L-MR 21909 is used for machining steel, high alloyed steel, cast iron and aluminium alloys.

Brass and copper, etc. can be co-machined in a material mix as well.

TECHNICAL DATA

Concentrate:

Density, 20°C, g/cm³ ~0.967
DIN 51757

Viscosity, (20°C), mm² /s ~59
DIN 53211

Refractive index ~1.436

Emulsion:

Appearance semi transparent

pH-value, (5%, DI water) ~9.3

DIN 51369

Corrosion protection properties:

according to DIN 51360/1 R0/S0 at 5%

according to DIN 51360/2 0/0 at 5%

Emulsion stability:

DIN 51367 (%) 98

with 3 to 5 g/l NaCl added 100 %

Lubricity Reichert-Waage Steel:

5%, 1.5 kg, (mm²) 22

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: 7 % 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 1.4 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 0.55 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 2.2 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:

Hazardous Information
Transport Regulations
Safety Regulations

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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