

**BONDERITE L-MR 21466**

March 2018

**PRODUCT DESCRIPTION**

BONDERITE L-MR 21466 provides the following product characteristics:

<b>Technology</b>	Lubricants
<b>Product Type</b>	Machining & Grinding Fluids
<b>Application</b>	Grinding, CNC-Machining, Honing, Broaching etc.
<b>Component</b>	BONDERITE C-NE 10466

BONDERITE L-MR 21466 is one of the two necessary components in the dualCys system.

Combining it with the BONDERITE C-NE 10466 in a mixing ratio of 1:1 the result is a universal cutting fluid suitable for different machining processes and substrates.

Both components are 100% compatible with each other.

The component BONDERITE C-NE 10466 is by itself a water based neutral cleaner (see details in the TDS).

Once the cleaner is polluted and therefore no longer suitable for cleaning, it can be recycled in the fluid container of the metal working machine and reutilized for topping up the metal working fluid.

dualCys is boron- and mineral oil-free as well as free of EP-additives, chlorine- sulfur- or phosphor-components.

**Application Areas:**

dualCys is a water miscible coolant for the machining of Steel, Stainless Steel, Cast Iron and Aluminum.

It is also possible to have some traces of other non-ferrous metals in the material mix.

dualCys emulsions are stable and build a very low foaming emulsion in a water hardness between 10°dH and 50°dh.

**TECHNICAL DATA****(as supplied):**Concentrate:**BONDERITE L-MR 21466 :**

Density, 20°C, g/cm<sup>3</sup> ~0.953  
DIN 51757

Viscosity, (20°C), mm<sup>2</sup> /s ~68  
DIN 53211

Refractive index (20°C) 1.448

Emulsion:

(2 % (20 g/L) BONDERITE L-MR 21466  
+ 2 % (20 g/L) BONDERITE C-NE 10466  
in DE water):

Appearance semi transparent

pH-value, 9.5

DIN 51369

**Corrosion protection properties:**

according to DIN 51360/2

0/0

(at 1,5% C-NE 10466 +  
1,5% L-MR 21466)

**Lubricating effect:**

Tapping Torque, Ncm  
(8 mm, 900 rpm, M4)

50/32 Ncm

**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:

2% (20 g/L) BONDERITE C-NE 10466  
+ 2% (20 g/L) BONDERITE L-MR 21466

Depending on the machining process and the material the make up concentration of

1 % (10 g/L) to 4 % (40 g/L) BONDERITE C-NE 10466

and

1.5 % (15 g/L) to 5 % (50 g/L) BONDERITE L-MR 21466

may vary

Topping up concentration:

0.15 % (1.5 g/L) to 0.4 % (0.4 g/L) BONDERITE C-NE 10466  
0.15 % (1.5 g/L) to 0.4 % (0.4 g/L) BONDERITE L-MR 21466

depending on the make up concentration and the machining process

**Control of the emulsion:**Refractometer:

The reading in °Brix multiplied by the product factor 1.7 is equivalent to the total concentration (BONDERITE C-NE 10466 + BONDERITE L-MR 21466) 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 0.28 is equivalent to the total concentration (BONDERITE C-NE 10466 + BONDERITE L-MR 21466) 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 1.5 is equivalent to the total concentration (BONDERITE C-NE 10466 + BONDERITE L-MR 21466) in percent.

To determine the concentration of the individual components the analysis of anionic surfactants is necessary.

**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 0.4