

BONDERITE® L-MR 21466

May 2025

Product description

BONDERITE® L-MR 21466 has the following product characteristics:

Technology	Lubricants
Product type	Machining & grinding fluids
Application	Grinding, CNC-machining, honing, broaching, also for minimum quantity lubrication (MQL)
Component	BONDERITE® C-NE 10466

BONDERITE® L-MR 21466 is a machining oil for minimal quantity lubrication. It contains an emulsifier what means that machines, tools and workpieces can be easy cleaned with water. 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/cm³, DIN 51757	~0.953
Viscosity, 20°C, mm²/s, DIN 53211	~68
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, DIN 51369 9.5

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 50/32
(8 mm, 900 rpm, M4)

Direction of use

Preliminary statement

Prior to use it is necessary to read the **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-NE10466 + 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.

Classification

Please refer to the corresponding **Safety Data Sheet** for details on:

Hazards identification

Transport information

Regulatory information

Storage

Recommended storage temperature, °C +5 to +40

Disclaimer

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