



## TECHNICAL DATA SHEET

# Zubora 10 H Extra FF

Semi-synthetic high-performance cooling lubricant with a high content of polar additives

### PRODUCT DESCRIPTION

- + semi-synthetic, water-miscible high performance cooling lubricant
- + on the basis of mineral oil
- + free of formaldehyde releasers
- + with effective polar EP/AW additives
- + long-term stable
- + high corrosion protection
- + excellent resolubility and therefore improved machine cleanliness
- + REACH-compliant substances
- + resistance of plastics as well as of paints and coatings according to VDI 3035

As the product does not contain any secondary amines, there is no risk of formation of nitrosamines according to the current state of knowledge.

Furthermore, **Zubora 10 H Extra FF** is inhibited against the formation of nitrosamines, i.e. if there are secondary amines and nitrite due to foreign carry-over e.g., no stable N-nitrosamines can be formed. Therefore, when exceeding the limit value for nitrite according to TRGS 611 a partial or complete change of the emulsion is not absolutely necessary.

### CHARACTERISTICS

Density/15°C / DIN EN ISO 12185	980 kg/m <sup>3</sup>
Viscosity/20°C / ASTM D 7042	295 mm <sup>2</sup> /s
pH-value (5 % in H <sub>2</sub> O) / DIN 51 369	9.4
Cast iron chips test (1:20) / DIN 51 360/T2	Corrosion degree 0
Mineral oil content	37 %

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Water hazard class, concentrate	2
Water hazard class, emulsion	(< 16,6 %) 1
Correction factor for determination of the concentration - refractometer	1.1

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#### APPLICATION

Due to the highly effective EP/AW additives **Zubora 10 H Extra FF** covers a wide range of applications. The use of these EP/AW-additives effects a significant longer tool life and enables the working with high cutting speeds. Therefore, machining processes are sustainable positively influenced. Thus, a high process security can be guaranteed even for very difficult working operations. This advantage guarantees high flexibility for different cutting processes mainly in central systems and individually filled machining centres.

**Zubora 10 H Extra FF** is used successfully for the following cutting processes:

Broaching, thread cutting, reaming, deep hole drilling, slicing, milling/hobbing, turning, drilling, sawing

The adaptation of lubrication and corrosion protection properties with a high rinsing effect allows the use of **Zubora 10 H Extra FF** for nearly every material, e.g.:

- normal cutting steels
- difficult cutting steels
- most difficult cutting steels/special materials
- gray cast iron, spheroidal graphite iron and malleable cast iron
- aluminium

The necessary working concentration depends on the difficulty of the operation and the material.

#### Recommended hardness of the preparation water:

12 to 24° dH.

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### WORKING CONCENTRATION

Drilling/Milling: approx. 5 %  
Reaming/Sawing: approx. 10 %

### STORAGE

Recommended storage temperature: +5 °C up to max. +40 °C.

### MISCELLANEOUS

Zubora cooling lubricants and our guide and slide way oils **Divinol T 3 EP ISO 32 / Divinol T 6 EP ISO 68 / Divinol T 8 EP ISO 100 / Divinol T 12 EP ISO 220** are optimally compatible with each other. The combined use shows excellent de-emulsification properties, i.e. mixtures of emulsions and slide way oils separate quickly. Black stains can be excluded to a great extent.

If there are increased demands on **corrosion protection**, e. g. for external transport, we recommend our anti-corrosion agents containing hydrocarbons (**Multicor dewatering fluids**). They are optimally adapted to our water-miscible cooling lubricants.

Benefit from our service, we will gladly advise you and develop individual application recommendations for your process. Please also note the material safety data sheet.

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