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Technical Product Bulletin

Multan 21-70

Water-miscible Cutting Fluid

Properties:

MULTAN 21-70 is a boron- and amine-free mineral oil based water miscible coolant suitable for a moderate to extreme hard water hardness (20 – 150 °GH) which is a specific feature of this product.

Due to the selection of raw materials MULTAN 21-70 is resistant against bacteria growth. Emulsions made from MULTAN 21-70 are nearly odourless.

MULTAN 21-70 is free of EP-additives based on chlorine, sulphur or phosphorus. It contains proven polar compounds.

Application:

MULTAN 21-70 is a water-miscible cutting fluid designed for the machining of aluminium alloys, steel, cast iron, brass and especially magnesium alloys. A combination of inhibitors insures no staining on aluminium alloys and non-ferrous metals.

For the make-up of emulsions in exact concentrations we recommend the use of a dosing pump.

Concentration:

Drilling, Turning:	initial charge:	5 - 10 %
	topping up:	3 - 6 %
Milling, Threading:	initial charge:	5 - 20 %
	topping up:	3 - 10 %
Grinding:	initial charge:	5 - 7 %
	topping up:	3 - 5 %

Control:

Refractometer:

The reading in °Brix multiplied by the product factor 0.96 is equivalent to the concentration in percent.

Titration:

100 ml of the emulsion are titrated with 0.5 N HCl using an electronic pH-meter down to pH 5.5.

The consumption of acid in ml multiplied by the product factor 1.15 is equivalent to the concentration in percent.

Splitting with acid (DIN 51368):
 100 ml of the emulsion are heated up with conc. hydrochloric acid.
 The reading in ml multiplied by the product factor 1.14 is equivalent
 to the concentration in percent.

Technical data:

Concentrate:	Appearance:	clear darkbrown liquid
	Density (20 °C), DIN 51757:	$0.95 \pm 0.02 \text{ g/cm}^3$
	Viscosity (20 °C), DIN 53211:	approx. $121 \pm 20 \text{ mm}^2/\text{s}$
	Flashpoint, DIN ISO 2592:	above 100 °C
	Storage:	0 to + 50 °C
Emulsion:	Appearance:	finely dispersed emulsion
	pH-value (5 % DIN-water):	$9,1 \pm 0,2$
	Corrosion protection properties DIN 51360/2:	0/0 at 5 %
	Lubricity Reichert-balance (5 %, 1.5 kg):	approx. 30 mm^2
Wastewater treatment:	Exhausted cutting fluid emulsions must not be discharged untreated into water. The available state-of-the-art treatment methods include emulsion splitting, membrane methods etc. The wastewater treatment must conform to the local discharger guidelines. Alternatively, the emulsions can be collected separately and disposed of by a specialized company.	
Waste code (EWC):	See safety data sheet.	
Safety information:	Please take note of the information in the safety data sheet and the label on the container.	

The expiry date of the product is given on the packaging labels.

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials used as well as to varying working conditions beyond our control, we strictly recommend to carry out intensive trials to test the suitability of our products with regard to the required processes and applications. We do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases we are liable of gross negligence or false intention.