

Biowas EP1

Description:

WASCUT Biowas EP1 is a modern, high-quality, oil-containing Emulsion based on a plant oil ester instead of mineral oil. In comparison to conventional emulsions is Biowas EP1 especially mild on the environment. **WASCUT Biowas EP1** is especially mild to skin and has an extremely good lubricity.

Health:

WASCUT Biowas EP1 is mild to the skin and is composed of raw materials that are not known or suspected to be carcinogenic, mutagenic or otherwise health endangering. The reaction products between raw materials or of the emulsion in use are also not known to be health endangering. Despite this, Wascut follows the latest medical research literature to see and eliminate potential dangers at an early point.

WASCUT Biowas EP1 is free from easily nitrosable secondary Amines (e.g. Diethanolamine), "capped" secondary amines (e.g. Diethanolamide), chemicals that are absorbed through the skin, damage organs and are teratogenic (e.g. Monoethanolamine), chlorinated hydrocarbons (e.g. PCB's, PCT's), silicone-containing compounds, and nitrite. The requirements of the German Guideline TRGS 611 are fulfilled by **WASCUT Biowas EP1**.

Mild to the skin:

Mineral oil in conventional emulsions draw the natural fats out of the skin, resulting in dry skin of machine operators. The plant oil derivatives in **WASCUT Biowas EP1** give a moisturizing effect which prevents the drying out of skin, resulting in fewer skin problems for machine operators.

Environmentally friendly:

WASCUT Biowas EP1 preserves the resources in our environment because the plant oil derivative is made from a regenerative source. In case diluted **WASCUT Biowas EP1** gets into the environment it can be readily and tracelessly biodegraded by the bacteria in the environment. A good biodegradability is important because emulsion mist leaves the production hall through ventilation, and lands in the environment. The good biodegradability of **WASCUT Biowas EP1** helps avoid the accumulation of pollution around the production site.

Long tool life:

The 55 % Ester (an Extreme Pressure additive) in **WASCUT Biowas EP1** have a high lubricity, which results in long tool life. Longer tool life, and less down time for tool changes, save you money.

Good Surface Finish:

The lubricant package in **WASCUT Biowas EP1** results in a good surface finish of the work pieces that you manufacture. This gives you an extra degree of safety in the production of a high product quality, and reduces the amount of scrap production in sensitive operations.

Corrosion Protection:

The plant oil derivative in **WASCUT Biowas EP1** is an especially good corrosion additive, which protects your work pieces and machines from corrosion over longer periods than typical conventional emulsions.

Long Emulsion Life:

The carefully balanced formulation of **WASCUT Biowas EP1** leads to a long emulsion life, even under difficult conditions.

Low Foam:

WASCUT Biowas EP1 has a low tendency towards foaming.

Clean Machines:

WASCUT Biowas EP1 has an especially good washing ability, which results in cleaner machines. The emulsion residue (after evaporation of water) is a thin oil which is easy to re-dissolve, helping to keep machines and workpieces cleaner. A clean machine helps avoid unwanted microbial growth and results in longer emulsion lifetimes, as well as a healthier working environment.

Technical Data:

Quality	Units	Typical Value	Test Method
Concentrate:			
Colour		Yellow	Visual
Density at 20°C	g/ml	0.93 ± 0,05	DIN 51 757
Viscosity at 20°C	mm ² /s	40 ± 210	DIN 51 562
Mineral Oil Content	% Weight	0	Formulation
Water Content	% Weight	4 ± 3	Formulation
EP-Additives			
Ester-types	% Weight	55 ± 5	Formulation
Chlorine	% Weight	0	Formulation
Phosphorus	% Weight	0	Formulation
Sulfur	% Weight	2 ± 1	Formulation
Silicone Content	% Weight	0	Formulation
Boron Content	% Weight	0	Formulation
Formaldehyde	% Weight	0	Formulation
Emulsion:			
pH Value 2%		8.9 ± 0,1	DIN 51 369
pH Wert 10%		9.0 ± 0,1	DIN 51 369
Emulsion residue	5 % in 20 °d	Re-emulsifiable oil	VKIS Sheet 9
Stickiness	5 % in 20 °d	not sticky	VKIS Sheet 9
Salt resistance	% stable in 0.3% NaCl	100	DIN 51 367
Foam Test	(Hand shake 50 ml in a 100 ml cylinder)		Shake test
3% in 20 °d	ml	20 ml foam at first / 30 sec. no foam	
After 24 hours	ml	20 ml foam at first / 30 sec. no foam	
Refractometer Factor		1.0	

Recommended Concentration:

Metal working operation	recommended concentration
Turning, Drilling, Milling, sawing	6 to 7 %
Free-Cut Steel	6 to 7 %
Grinding	6 to 7 %
Deep Drilling, Thread Tapping	8 to 15 %
Reaming	8 to 15 %
Broaching	8 to 15 %

Remark: The concentration of **WASCUT Biowas EP1** should not fall below 5%, to ensure that the preservative package can effectively protect the emulsion against microbes.

Metals:

WASCUT Biowas EP1 is suited to machine the following metals:

Non-ferrous Metals

Aluminum Alloys, Copper Alloys

Titanium-Alloys, Chrome-Alloys, Nickel-Alloys (avoid dissolved Nickel in the emulsion!)

Steel, Steel Alloys, Free-Cutting Steel, Stainless Steel, Cast Iron

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