

Crystal Cut® 322 (Coolant Concentrate: Micro-Emulsion)

FEATURES

- Biodegradable
- Chlorine and Sulfur Free
- Free of Boron and Formaldehyde
- Does Not Contain Secondary Amines
- General Purpose Cutting and Grinding
- High Level of Detergency
- Low Foam
- Aerospace Approved including Boeing

Approved by Boeing

GENERAL DESCRIPTION

Crystal Cut 322 was developed to eliminate dependence on Petroleum Hydrocarbons. **Crystal Cut 322** is based on synthetic resources, and is free of petroleum oils. **Crystal Cut 322** is a full Micro-Emulsion coolant concentrate for general purpose grinding and machining. It is especially good for diamond abrasives. The **Crystal Cut 322** contains additives that molecularly align with the crystalline matrix of the diamond abrasives preventing adhesion of the metal being ground. **Crystal Cut 322** Micro-Emulsion ingredients significantly reduce the amount of soot that is formed at the tool work piece interface during the cutting process which allows for better flow of the swarf. **Crystal Cut 322** also provides excellent corrosion and rust protection reducing oxidation of the freshly cut surfaces.

APPLICATIONS

Primary		Secondary	
Cutting	Milling	Piercing	Stamping
Drilling	Sawing	Punching	Thread Cutting
Grinding	Turning	Shaving	Thread Milling

MATERIALS

Primary		Secondary	
Aluminum	Ceramics	Molybdenum	Stainless Steel
Carbide	Composites	Nickel Alloys	Steel
Cast Iron	Glass	Plastic	Titanium

INSTRUCTIONS

Always premix coolant before adding to the machine sump. When mixing coolant by hand it is important to always add the concentrate to the water and then agitate. For best results, a Hangsterfer's recommended proportioning unit should be used. To maintain recommended concentration, make-up should be added at one-fourth the desired concentration. Always check concentration with a refractometer. To maintain 6%: first charge the machine at 6%, then, as needed, add make-up as much as 1.5%. Avoid adding straight water or concentrate directly to the machine.

OPERATION	CONCENTRATION		
	%	Ratio Concentrate: Water	Refractometer
General Grinding	5	1:20	1.56
General Machining and Turning	7.5	1:13	2.34
Grinding with aggressive feed rates	10	1:10	3.13
Drilling, Tapping, Reaming	10	1:10	3.13
Light Stamping and Forming	10	1:10	3.13

MAINTENANCE

Crystal Cut 322 is a bio-stable Micro-Emulsion coolant designed to control the growth of bacteria. Regular maintenance is required for maximum performance. Concentration should be monitored regularly with a calibrated refractometer. Tramp oils should be removed from the coolant surface regularly to prevent unwanted bacterial growth. Keep the coolant system free of cleaners, solvents and other contaminants.

PRODUCT CHARACTERISTICS

Product Name: Crystal Cut 322		Concentration Dilution Table		
Form	Liquid	%	Ratio Concentrate: Water	Refractometer
Color	Amber	20%	1:5	6.25
Odor	Mild	15%	1:7	4.69
Specific Gravity	1.06 - 1.08	10%	1:10	3.13
Viscosity: SUS @ 100°F	52 - 59	7.5%	1:13	2.34
cSt @ 40°C	8 - 10	5%	1:20	1.56
Flash Point, COC, °F/°C	Non-Flammable	4%	1:25	1.25
Solubility in Water	100%	3%	1:33	0.94
Vapor Pressure, mm Hg @ 25°	<0.01	2.5%	1:40	0.78
pH @ 10%	8.4 - 8.6	2%	1:50	0.63
Chlorine	None	1%	1:100	0.31

Refractive Index Multiplier = 3.2

WASTE TREATMENT

If and when it is necessary to dispose of the waste coolant, the amount of coolant waste can be greatly reduced by separating the water from the oil and various contaminants which accumulate through normal machining. You can often reduce your waste disposal by more than 80%. Hangsterfer's recommends Ultra-Filtration, Chemical Treatment or Evaporation for removal of fats, oils, greases and metals prior to disposal of the water phase. After approval by your local, state, or federal authorities, the waste water may be sewered, and the separated oils removed for recycling or disposal.

SHIPPING UNITS

All Hangsterfer's products are available in pails, drums and Intermediate Bulk Containers (275 gallons). All products are distributed worldwide.

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