

## CRYSTAL CUT 465®

*Synthetic Coolant Concentrate*

### HIGHLIGHTS

- New synthetic technology
- For ferrous and non-ferrous
- Excellent corrosion protection
- Mild to paint, seals and skin
- Increase tool life and improve surface quality
- Tramp oil rejection for very long sump life
- Very low foam in high pressure applications
- Bioproof and does not require microbicide

### GENERAL DESCRIPTION

A product is only as strong as its weakest point and Crystal Cut 465 has no weak points. Crystal Cut 465 contains a new unique chain link synthetic technology, which provides a variety of physical and chemical protection over a broad range of conditions. Crystal Cut 465 contains time tested technology combined with the latest molecularly modified components resulting in excellent lubricity and corrosion protection without compromise to health, safety and environmental concerns.

### MATERIALS

Primary		Secondary	
Aluminum Alloys	Powdered Metals	Brass	Glass
Nickel Alloys	Tool Steel	Bronze	Precious Metals
Stainless Steel	High Speed Steel	Copper Alloys	Refractory Metals
High Carbon Steel	Titanium	Ductile Iron	Plastics
Low Carbon Steel	Ceramics	Cast Iron	Composites

### INSTRUCTIONS

#### Pre-mixing Procedures:

- Always pre-mix coolant before adding to the machine sump.
- Never add straight water or straight concentrate directly to the machine's sump.
- For best results a Hangsterfer's recommended proportioning device should be used.
- If mixing by hand, always add concentrate to water, and then agitate.

#### Recommended Concentrations:

Applications	Ratio	%	Refractometer
	Concentrate: Water		
General Cutting	1:20 - 1:10	5% - 10%	3.25 - 5.75
Severe Cutting	1:10 - 1:5	10% - 20%	5.75 - 11.50
General Grinding	1:40 - 1:20	2.5% - 5%	1.50 - 3.25
General Deformation	1:40 - 1:10	2.5% - 10%	1.50 - 5.75
Severe Deformation	1:10 - 1:5	10% - 20%	5.75 - 11.50

### MIXING INSTRUCTIONS

Always pre-mix coolant before adding to the machine sump. When mixing coolant by hand it is important to always add the concentrate to the water, then agitate. For best results a Hangsterfer's recommended proportioning unit should be used. To maintain recommended concentration, make-up or top-up should be added at one-half the desired concentration. To maintain 6% in the machine, first charge the machine at 6%, then as needed add make-up at 3%. Never add straight water or concentrate directly to machine.

## MAINTENANCE

Crystal Cut 465 is a biostable 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.

<b>PRODUCT CHARACTERISTICS – CRYSTAL CUT 465</b>				
		%	Ratio	Refractometer
Form	Liquid	20%	1 : 5	11.50
Color	Colorless	15%	1 : 7	9.00
Odor	Mild	10%	1 : 10	5.75
Specific Gravity	1.06	7.5%	1 : 13	4.50
Viscosity: SUS @ 100°F	88	5%	1 : 20	3.25
cSt @ 40°C	17	4%	1 : 25	2.50
Flash Point, COC, °F/°C	Non-Flammable	3%	1 : 33	1.75
Fire Point, COC, °F/°C	Non-Flammable	2.5%	1 : 40	1.50
Pour Point, °F/°C	32 / 0	2%	1 : 50	1.25
Solubility in Water	100%	1%	1 : 100	0.75
Boiling Point, °F/°C	>212 / 100	<b>TOXICOLOGY</b>		
Vapor Pressure, mm Hg @ 25°	Not Applicable	Crystal Cut 465 is FREE of ZINC PCB'S VOC'S BORON NITRITE NITRATE DIETHANOLAMINE (DEA) OZONE DEPLETING CHEMICALS		
pH @ 10%	9.2			
Sulfur, Active	0%			
Chlorine	0%			
Phosphorus	0%			
Solvent Content	0%			
Solids Content	0%			
Silicone	0%			

## WASTE TREATMENT

All Hangsterfer's coolants are designed for easy waste treatment. By separating the water phase from the oil and various other contaminants, which accumulate through normal machining, you can reduce your waste disposal by 80%-90%. Hangsterfer's recommends Ultra Filtration or Chemical Treatment for removal of fats, oils, greases and heavy metals prior to disposal of the water phase. Following approval by your local authorities, your wastewater stream may be sewerred while waste oils should be removed for recycling or disposal.

## SHIPPING UNITS

All Hangsterfer's products are available in 5 gallon, 55 gallon and Intermediate Bulk Containers (260 or 330 gallons). All products are distributed worldwide.

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The general description, recommended uses, application data and statements in the product literature are guidelines. Because this product may be used for a variety of applications over which Hangsterfer's Laboratories, Inc. has no control, Hangsterfer's Laboratories, Inc. assumes no liability for incidental, consequential, or direct damages of any kind, regardless of causes, including negligence.