HANGSTERFER'S®

Research, Development & Manufacturing of Metalworking Lubricants

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	
Powdered Metals	Ceramics	Aluminum Alloys	Precious Metals
High Temperature Alloys	Nickel Alloys	Ductile Iron & Cast Iron	Plastics
Titanium	Chromium Alloys	Refractory Metals	Glass
Steels & Stainless Steels: Bhn up to 450		Composites	

INSTRUCTIONS

Pre-mixing Procedures:

- Always premix 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 concentrate:water	%	Refractometer
General Cutting	1:20 - 1:10	5% - 10%	2.9 – 5.7
Severe Cutting	1:10 - 1:5	10% - 20%	5.7 – 11.4
General Grinding	1:40 - 1:20	2.5% - 5%	1.4 – 2.9
General Deformation	1:40 - 1:10	2.5% - 10%	1.4 – 5.7
Severe Deformation	1:10 - 1:5	10% - 20%	5.7 – 11.4

MIXING INSTRUCTIONS & MAINTENANCE

Mixing 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, 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. For best results use quality D.I. or R.O. water.

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.

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PRODUCT CHARACTERISTICS				
Product	**CC 465**	**Concentration Dilution Table**		
Form	Liquid	**%**	**Ratio**	**Refractometer**
Color	Colorless	20%	1 : 5	11.4
Odor	Mild	15%	1 : 7	8.6
Specific Gravity	1.06	10%	1 : 10	5.7
Viscosity: SUS @ 100°F	**88**	7.5%	1 : 13	4.3
cSt @ 40°C	**17**	5%	1 : 20	2.9
Flash Point, COC, °F/°C	N/F	4%	1 : 25	2.3
Fire Point, COC, °F/°C	N/F	3%	1 : 33	1.7
Pour Point, °F/°C	32 / 0	2.5%	1 : 40	1.4
Solubility in Water	100%	2%	1 : 50	1.1
Boiling Point, °F/°C	212 / 100	1%	1 : 100	0.6
Vapor Pressure, mm Hg @ 25°	< 1.0	**Refractive Index Multiplier = 1.75**		
pH @ 10%	9.3			

SHIPPING UNITS

Crystal Cut 465 is available in 5 gallon, 55 gallon and Intermediate Bulk Containers (275 or 330 gallons). All products are distributed worldwide.

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