

## S-500® Coolant Concentrate: Water Soluble Oil

### GENERAL DESCRIPTION

- **Non-Toxic, Non-Irritating and Non-Corrosive.**
- Amine-free, Phosphate-free and Nitrite-free.
- **Bio-stable** formulation for extended life and minimized waste.
- Ideal for continuous use recycling systems and central systems.
- Reduce inventories; multi-purpose formulation eliminates need for multiple coolants.
- Contains **Extreme Pressure Additives** for severe applications.
- **Outstanding performance** on difficult to machine materials.
- **Compatible** with all common machine tool components, including paint and seals.
- **Excellent rejection** of foreign contamination, including tramp oils.

### APPLICATIONS

Primary		Secondary	
CNC Turning	CNC Milling and Drilling	Broaching, Shaping & Slotting	Gear Cutting & Finishing
Tapping & Threading	Reaming & Boring	Drawing	Forming
Sawing & Cut-off	Light Stamping	Heavy Stamping	Fine Blanking
High Speed Machining	High Pressure Machining	Grinding, including:	
Conventional Contract Shop Applications		Centerless, Creepfeed, Surface, ID/OD and Rotary.	

### MATERIALS

Primary		Secondary	
Aluminum Alloys	Steel, all forms	Brass, Bronze & Copper Alloys	Precious Metals
High Temperature Alloys	Powdered Metals	Ductile Iron & Cast Iron	Plastics & Composites
Nickel Alloys	Tool Steel & High Speed Steel	Ceramics	Refractory Metals
Stainless Steel	Titanium	Glass	

### INSTRUCTIONS

Pre-mixing Procedures:	Recommended Concentrations:			
<ul style="list-style-type: none"> <li>• <u>Always</u> premix coolant before adding to the machine sump.</li> <li>• <u>Never</u> add straight water or straight concentrate directly to the machine's sump.</li> <li>• For best results a Hangsterfer's recommended proportioning device should be used.</li> <li>• If mixing by hand, always add concentrate to water, and then agitate.</li> </ul>	Applications	Ratio <small>Concentrate: Water</small>	%	Refractometer
	General Cutting	1:20 - 1:10	5% - 10%	5 - 10
	Severe Cutting	1:10 - 1:5	10% - 20%	10 - 20
	General Grinding	1:40 - 1:20	2.5% - 5%	2.5 - 5
	General Deformation	1:40 - 1:10	2.5% - 10%	2.5 - 10
	Severe Deformation	1:10 - 1:5	10% - 20%	10 - 20

Make-up Procedures:	Recommended Maintenance Equipment:
<ul style="list-style-type: none"> <li>• It is important to remember that as water evaporates from the coolant, the concentration will increase.</li> <li>• To maintain the recommended concentration in the machine, make-up coolant should be pre-mixed at half the % concentration as the initial fill.</li> <li>• To maintain 6% in the machine, first charge the machine at 6%, then add make-up at 3% to keep the machine full.</li> </ul>	Hangsterfer's <b>Accumix 14100</b> is a premium piston-style proportioning device that insures proper proportioning and mixing of the water and concentrate. A tight, stable emulsion is the result.
	Hangsterfer's <b>Basic Refractometer</b> measures concentrations from 0% to 18% and is one of the most important tools a shop can have in regards to coolant maintenance.

<p>This will keep the machine at 6%.</p> <ul style="list-style-type: none"> <li>Never add just straight water to reduce the concentration, always add a light pre-mixed coolant</li> </ul>	<p>Hangsterfer's <b>Basic Belt Skimmer</b> removes tramp oil from the machine sump as it accumulates. Take advantage of the tramp oil rejecting properties of the coolant and maximize sump life.</p>
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## MAINTENANCE

S-500 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. S-500 gives a direct read on the refractometer (e.g. 5=5%). 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	S-500	%	Ratio	Refractometer
Form	Liquid	20%	1:5	20
Color	Green	15%	1:7	15
Odor	Mild	10%	1:10	10
Specific Gravity	0.96	7.5%	1:13	7.5
Viscosity: SUS @ 100°F	288	5%	1:20	5
cSt @ 40°C	62	4%	1:25	4
Flash Point, COC, °F/°C	340 /170	3%	1:33	3
Fire Point, COC, °F/°C	345 /173	2.5%	1:40	2.5
Pour Point, °F/°C	<0 / -18	2%	1:50	2
Solubility in Water	100%	1%	1:100	1
Boiling Point, °F/°C	>284 / 140	<b>TOXICOLOGY</b>		
Vapor Pressure, mm Hg @ 25°	<0.01	USA LD <sub>50</sub> (rat) > 15 <sup>g</sup> /kg		
pH @ 10%	9.1	Non-Irritating, Non-Toxic and Non-Corrosive		
Sulfur, Active	0.0%	*****S-500 is FREE of:*****		
*Chlorine	4.0%	ZINC, PCB'S, HEAVY METALS		
Phosphorus	0.0%	SULFURIZED AND PHOSPHORIZED ADDITIVES		
Solvent Content	0.0%	AMINES, BORON, NITRITE, NITRATE		
Solids Content	0.0%	DIETHANOLAMINE (DEA)		
Silicone	0.0%	OZONE DEPLETING CHEMICALS		
		VOLATILE ORGANIC COMPOUNDS		

\*Hangsterfer's uses only non-hazardous, chemically bound, long chain chlorinated paraffin.

## WASTE TREATMENT

All Hangsterfer's soluble oils 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 sewered 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.

Revised 7/16/03

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.

