

S-388 *Coolant Concentrate: Water Soluble Oil, Chlorine-free, Dye-free, Perfume-free*

GENERAL DESCRIPTION

- **Chlorine-Free, Non-Toxic, Non-Irritating and Non-Corrosive.**
- Dye-free, Perfume-free, 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.**
- Advanced Synthetic Extreme Pressure Additives.
- **Especially for the machining of disk drive components.**
- **Easily cleaned in either aqueous or solvent-based cleaning systems.**
- **Outstanding performance** on aluminum machining, including small drills and small taps.
- **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	Titaniums	Brass, Bronze & Copper Alloys	Precious Metals
High Temperature Alloys	Powdered Metals	Ductile Iron & Cast Iron	Ceramics & Glass
Nickel Alloys	Composites & Plastics	Tungston	Refractory Metals
		Stainless Steels: Bhn 250-350	Steels-Bhn250-350
		Stainless Steels: Bhn 350-450	Steels- Bhn 350-450

INSTRUCTIONS

Pre-mixing Procedures:	Recommended Concentrations:			
<ul style="list-style-type: none"> • <u>Always</u> premix coolant before adding to the machine sump. • <u>Never</u> 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. 	Application	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"> • It is important to remember that as water evaporates from the coolant, the concentration will increase. • To maintain the recommended concentration in the machine, make-up coolant should be pre-mixed at half the % concentration as the initial fill. • To maintain 6% in the machine, first charge the machine at 6%, then add make-up at 3% to keep the machine full. This will keep the machine at 6%. • Never add just straight water to reduce the concentration, always add a light pre-mixed coolant 	Hangsterfer's Accumix 14100 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 Basic Refractometer measures concentrations from 0% to 18% and is one of the most important tools a shop can have in regards to coolant maintenance.
	Hangsterfer's Basic Belt Skimmer 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.

MAINTENANCE

S-388 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-388 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-388	Concentration Dilution Table		
Form	Liquid			
Color	Amber			
Odor	Mild	%	Ratio	Refractometer
Specific Gravity	0.97	20%	1:5	20
Viscosity: SUS @ 100°F	220	15%	1:7	15
cSt @ 40°C	48	10%	1:10	10
Flash Point, COC, °F/°C	323 / 162	7.5%	1:13	7.5
Fire Point, COC, °F/°C	343 / 173	5%	1:20	5
Pour Point, °F/°C	<0 / -18	4%	1:25	4
Solubility in Water	100%	3%	1:33	3
Boiling Point, °F/°C	289 / 143	2.5%	1:40	2.5
Vapor Pressure, mm Hg @ 25°	<0.01	2%	1:50	2
pH @ 10%	9.0	1%	1:100	1

SHIPPING UNITS

S-388 is available in 5 gallon, 55 gallon and Intermediate Bulk Containers (275 or 330 gallons). All products are distributed worldwide.

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