

## Cobalt Grinder® *Synthetic Coolant Concentrate*

### GENERAL DESCRIPTION

- No Cobalt Leaching
- Excellent filterability
- Non Foaming
- Excellent cleanability
- Dye free
- Low odor
- Mild to operators
- Low pH at in-use dilution

Hangsterfer's Cobalt Grinder is a pure synthetic coolant deigned for the grinding of carbide. Cobalt leaching is a concern when grinding carbide materials with water based coolants, and the Cobalt Grinder addresses these issues. Designed with the ability to inhibit cobalt leaching, this product allows for the use of water when grinding carbide materials. Filterability is excellent as is work piece visibility. The Cobalt grinder may be cleaned with any aqueous or solvent-based parts cleaning system.

### MATERIALS

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

| Application      | Concentration               |    |                       |
|------------------|-----------------------------|----|-----------------------|
|                  | Ratio<br>Concentrate: Water | %  | Refractometer Reading |
| General Grinding | 1:20                        | 5% | 1.11                  |

### APPLICATION

| Primary  | Secondary  |
|--|--|
| Grinding of carbide-based materials where water based synthetic coolant is preferred.<br><br>Surface, Edge, ID, OD,<br>* We have a full line of specialty oils designed for grinding carbide also* | May be used as a general-purpose synthetic grinding coolant if needed.<br><br>Surface, ID-OD, etc. |

### 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-half the desired concentration. To maintain 5%: first charge the machine at 5%, then as needed add make-up at 2.5%. Never add straight water or concentrate directly to machine.

## WASTE TREATMENT

All Hangsterfer's soluble oils are designed for easy waste treatment. By separating the water phase from the oil and various 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 and waste oils removed for recycling or disposal.

## MAINTENANCE

Cobalt Grinder 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. The refractometer reading needs to be multiplied by 4.5 in order to determine the actual concentration (e.g. 1 on refrac. =4.5 %). 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. Please note that the Cobalt Grinder will run clear at design levels of 5%. If it drops below design levels, it will start to turn pink, indicating the presence of cobalt in the solution. Always maintain correct concentrations.

| PRODUCT CHARACTERISTICS     |                |                                   |       |               |
|-----------------------------|----------------|-----------------------------------|-------|---------------|
| Product                     | Cobalt Grinder | Concentration Dilution Table      |       |               |
| Form                        | Liquid         |                                   |       |               |
| Color                       | Golden         |                                   |       |               |
| Odor                        | Mild           |                                   |       |               |
| Specific Gravity            | 1.035          | %                                 | Ratio | Refractometer |
| Viscosity: SUS @ 100°F      | 14.1           | 5                                 | 20:1  | 1.10          |
| cSt @ 40°C                  | 3.1            | 10                                | 10:1  | 2.20          |
| Flash Point, COC, °F/°C     | NA             |                                   |       |               |
| Fire Point, COC, °F/°C      | NA             |                                   |       |               |
| Pour Point, °F/°C           | NA             |                                   |       |               |
| Solubility in Water         | 100%           |                                   |       |               |
| Boiling Point, °F/°C        | 199.4          |                                   |       |               |
| Vapor Pressure, mm Hg @ 25° | 12.20 psi      |                                   |       |               |
| pH @ 5%                     | 9.5            |                                   |       |               |
| Chlorine                    | 0              | Refractive Index Multiplier = 4.5 |       |               |

## SHIPPING UNITS

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

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