THE GRINDER™
NO-FOAM SYNTHETIC GRINDING FLUID

PRODUCT DESCRIPTION:
THE GRINDER is a **pure synthetic fluid** designed for high-speed grinding operations on most metals.

ELIMINATES FOAMING AND MISTING PROBLEMS:
The non-foaming formulation of THE GRINDER eliminates foaming and misting problems on all high-speed grinding operations. THE GRINDER can be mixed as rich as 10:1 and you will not experience any excessive foam or mist problems on even a high-speed Blanchard type operation. While THE GRINDER formula itself is completely non-foaming, slight contamination by a cleaner or a previously used coolant may cause some foaming.

EXTENDS WHEEL LIFE/SUPERIOR SURFACE FINISH:
The unique selection of raw materials in THE GRINDER provides longer wheel life, excellent surface finish and reduction of burn in two ways.

1. The chemical type lubricity helps prevent wheel wear which reduces the need for excessive wheel-dressing. Also this lubricity produces a very low micro-finish on the parts.
2. When used at the proper concentration, the complete water solubility of THE GRINDER helps prevent wheel loading and glazing. This eliminates the need for frequent wheel dressing which again extends wheel life.

CRYSTAL CLEAR:
THE GRINDER is a crystal clear blue concentrate and forms a water-clear solution in a wide range of water temperature and hardnesses for excellent work visibility.

EXCELLENT RANCIDITY CONTROL:
Formulated with high-quality raw materials, THE GRINDER provides excellent rancidity and slime control. When used at the proper concentration, THE GRINDER eliminates foul odor problems associated with spoiled coolants in manufacturing plants.

EXCELLENT FILTERABILITY:
THE GRINDER works extremely well with diatomaceous earth, positive media, cyclonic and settling type filtration units.

NON-CORROSIVE & NON-STAINING:
THE GRINDER contains superior corrosion inhibitors to provide corrosion and stain protection on carbide, cast iron, steel, aluminum, brass, copper and most modern alloys.

COMPLETELY WATER-RESOLUBLE RESIDUE:
THE GRINDER leaves a completely water resoluble, rust preventative type film on the machine and parts. No gummy, sticky, tacky residue to tie up machines, collets or gauges which create excessive maintenance costs. The film left by THE GRINDER is completely water resoluble and immediately goes back into solution once the coolant is turned on.

SAFE:
THE GRINDER does not contain phenols, creosols, PCB's, nitrites, nitrates, solvents, harsh alkalis, phosphates or heavy metals. THE GRINDER is non-flammable and is mild and non-irritating to the skin.

CASE HISTORIES:
Company: Large carbide tool manufacturer.
Machine: Various grinding machines.
Metal: Carbide.
Operation: Grinding of carbide tools on a 2800 gallon central system with diatomaceous earth filter.
Results: With a competitive coolant this company was experiencing rust, heavy residue on machines, mist problems and poor cycle time on their diatomaceous earth filter. They were forced to recycle their diatomaceous earth filter every 4 to 5 days. Upon installing THE GRINDER, they received excellent grinding results, no rust, and eliminated all misting and foaming problems. They were able to increase their filter cycle to 3 weeks.

Company: Specialty manufacturer.
Machine: OD grinder.
Metal: Hardened steel.
Operation: OD grinding.
Results: With a competitive coolant, this company was experiencing frequent rust, foam and poor finish problems. By switching to The Grinder they have now been able to run rust and foam free for over 9 months with the same charge and are able to get a 6 micron finish on their hardened steel.

OTHER USES:
As well as being an excellent grinding fluid, THE GRINDER has many other uses in a manufacturing shop. For example, a number of pump manufacturers will have dip tanks where they submerge their machined parts and inject air pressure to check for leaks. In this tank they require a crystal clear liquid to observe air bubbling around the parts as well as providing some rust protection during this operation. THE GRINDER diluted 25:1 is an excellent fluid for this quality control testing procedure.

It provides them with a crystal clear solution for ease of visibility of the parts to check for leaks, provides excellent corrosion protection of the part and is completely non-foaming, which is extremely important in this type of operation.

In many operations after the parts have been machined or ground, they are then dipped into a short-term, corrosion protective compound to prevent rusting while the parts are waiting to be cleaned, painted, plated, or to go to another operation. Many times this corrosion protective dip is not compatible with the coolant in the next operation, and, therefore, acts as a contaminant. Replacing this rust inhibitor dip with a solution of THE GRINDER provides the short-term rust protection the customer desires as well as eliminates the possible contamination of the coolant in the next operation. This saves the customer money, problems and also extends the use of THE GRINDER in the customer's shop. It also helps him eliminate the number of items he must carry in inventory to keep his shop functioning smoothly.

CAUTION: When starting a new trial in a customer's plant, the customer may request that you add THE GRINDER **as makeup to the** coolant he has in his machine at the present time. If you allow this, you not only inherit the problems associated with the present coolant but also risk the possibility of chemical incompatibility between the two coolants, therefore, shutting down the customer's operation completely. In any coolant installation it is essential that the old coolant be pumped out, the machine thoroughly cleaned and recharged with a fresh solution of THE GRINDER.

DIRECTIONS FOR USE:
A concentrate designed to be diluted with water, THE GRINDER forms a clear solution in a wide range of water temperatures and hardnesses.

1. To insure a uniform solution, mix THE GRINDER with water at the appropriate concentration in a separate container. For most grinding operations, THE GRINDER should be charged at a 20:1 (5%) concentration.
2. Agitate solution until thoroughly mixed.
3. Add the mixed coolant to the cleaned sump.
4. **MAKEUP:** For most high-speed grinding operations, add makeup to THE GRINDER at approximately 1/3 the concentration desired in the machine. For example, a starting concentration of 20:1 requires 50:1 makeup. Always add diluted solution as makeup. Never add plain water to the machine sump.

NOTE: DO NOT USE THIS PRODUCT ON OR WITH GALVANIZED PARTS, SPLASH GUARDS, BUCKETS OR PIPING.

Recommended Starting Concentration

For most grinding operations, THE GRINDER should be charged at a 20:1 (5%) concentration. THE GRINDER can also be used on light duty machining operations for the easier to machine metals. The concentration for this should be 20:1 (5%).

THE GRINDER DILUTION RATIO VS. REFRACTIVE INDEX*

Dilution Ratio	Refractive Index
5-1	6.0
10-1	3.0
15-1	2.3
20-1	**1.5**
25-1	1.2
30-1	0.9
35-1	0.8
40-1	0.7
50-1	0.6

*AO Model 10440 Industrial Fluid Tester

Formula for determining Total Volume by Gallons:

$$\frac{\text{Width} \times \text{Length} \times \text{Height (in inches)}}{231} = \text{Total Sump Capacity in Gallons}$$

Be sure to read all Directions, Precautionary and First Aid Statements on product labels before use of this or any IPG/Spartan product. Material Safety Data Sheets for all IPG/Spartan products are available from your authorized IPG/Spartan distributor.

PACKAGING:
THE GRINDER is available in tankwagons; 330-gallon disposable tote; 275-gallon, DOT-approved tote; HDPE (High Density Polyethylene) 55-gallon drums and 5-gallon pails. Label copy is available in both English and Spanish.

GUARANTEE: Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture.