



Informative bulletin

THE CUTTER™ Soluble Oil Based Cutting and Grinding Fluid

PRODUCT DESCRIPTION:

THE CUTTER is a multi-functional soluble oil-based fluid designed for most machining and/or grinding operations. THE CUTTER contains superior corrosion inhibitors to protect galvanized parts, steel, aluminum, brass, copper, their alloys, and the modern space-age alloys of today.

Formulated with the satisfaction of the operator as well as the manufacturing operation in mind, THE CUTTER offers the user the following advantages:

EXCELLENT TOOL LIFE/SURFACE FINISH:

The stable chlorine content of THE CUTTER provides outstanding tool life and surface finish on even the most difficult to machine alloys such as Stainless, Steel, Hastelloy, Inconel, Titanium alloys, and other space-age metals.

LABOR SAVING/ECONOMICAL:

The excellent emulsion stability and cleanliness of THE CUTTER mean less down time and more time producing parts with fewer pump outs and less down time maintenance resulting in more production hours. THE CUTTER is ideally suited to the modern, highly technical machines of today.

ODOR RESISTANT:

THE CUTTER formulation contains an odor-killing component to control odors and eliminate slime build-up on machine surfaces and in coolant systems. Use of THE CUTTER reduces rancidity problems and greatly increases the life of the coolant virtually eliminating down time due to operator complaints and other associated problems with a spoiled, rancid coolant.

FREE FLOWING RESIDUE:

THE CUTTER leaves a non-sticky, free-flowing water re-emulsifiable corrosion protective film on both machine and parts. No sticky, gummy, tacky build-up to tie up machines or aid in bacterial growth.

SAFE:

THE CUTTER does not contain any phenols, creosols, nitrites, nitrates, harsh alkalies, phosphates or any heavy metals. Operators like the pleasant aroma and light blue color of THE CUTTER. Operator satisfaction is essential for a clean, trouble-free operation today.

CASE HISTORIES:

Company: Large job shop.

Machine: Pratt & Whitney Star-Turn N/C Machining Center.

Metal: Hardened steel.

Operation: Turning, milling and boring.

Results: Using a competitive coolant this company was getting 15 parts per tool on 1 particular roughing operation. After switching to THE CUTTER this was increased to 25 to 30 parts per tool. They also achieved a surface finish improvement of from 32 R.M.S. with the competitive product to 17 R.M.S., enabling them to eliminate a hand sanding operation.

Company: Large tool and die shop.

Machine: Mazak Machining Center and LaBlond N/C Lathe.

Metals: Hastelloy, Inconel, 6061-T6 aluminum and 7075-T6 aluminum.

Operation: General turning, milling, boring, and tapping.

Results: Using a competitive soluble oil this company was experiencing rancidity every week and a half to 2 weeks in both these machines. After switching to THE CUTTER this company did not experience any rancidity throughout an entire summer, and the tool life surface finish and cleanliness of operation was also increased drastically.

As well as being an **excellent cutting and grinding fluid**, THE CUTTER has many other uses in a manufacturing shop today. On many of the multi-station machines of today various tools may be removed and stored for a week or 2 at a time when not in use. Most generally these tools are coated with a rust preventative oil at the time of their removal and placement into storage. Replacing this rust preventative oil with THE CUTTER concentrate provides them with the rust protection they need as well as eliminating the contamination of the coolant with the rust preventative oil once the tools are placed back in the machine. This saves the customer money by eliminating the problems associated with the contamination of the rust preventative oil in the coolant as well as eliminating another material the customer must carry in inventory.

Many machines today are equipped to perform a variety of cutting functions on a part at 1 time. On some of these operations the diluted coolant may not provide enough lubricity for a particular operation such as tapping. In this instance the customer will brush on a sulfurized cutting oil to increase the lubricity on this operation. This cutting oil then contaminates the coolant, thus causing many problems associated with sulfurized cutting oil contamination. By replacing this cutting oil with THE CUTTER concentrate the customer receives the extra lubricity required for the difficult operations, as well as eliminating the problems associated with the straight tapping oil. Here again, this eliminates the need to carry an extra product in inventory as well as eliminating the problems associated with the sulfurized cutting oil.

Many times a customer will take the parts after being machined or ground and dip them in a light, temporary, rust-preventative dip to prevent corrosion of these parts while in temporary storage or between operations. Replacing this light, rust-preventative dip with a rich solution of THE CUTTER, you eliminate the problems of contamination of The

coolants in the next operation with this rust preventative, as well as giving the customer the advantage of using one product for different applications.

CAUTION: When starting a new trial in a customer's plant, the customer may request that you add THE CUTTER 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 2 coolants and, 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 CUTTER.

DIRECTIONS FOR USE:

A concentrate designed to be added to water, THE CUTTER forms a stable emulsion in a wide range of water temperatures and hardness.

1. Always add THE CUTTER to water in a separate container at the appropriate concentrations with as much agitation as possible. Water at room temperature forms the best emulsion. (Refer to Recommended Starting Concentration Chart.)
2. Add the mixed coolant to the cleaned sump.
3. MAKEUP: When adding makeup to the machine, add THE CUTTER at 1/2 to 2/3 the concentration desired in the machine. For example, startup of 10:1 requires 20:1 makeup. Always add diluted solution as makeup; never plain water.

To determine number of gallons of THE CUTTER required to charge a machine use the following formula to determine the total gallons held by the machine sump:

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

RECOMMENDED STARTING CONCENTRATION (parts water to parts The Cutter)

	Ductile Iron	Brass Alloys	Mild Steel	Stainless Steel	Hard Steel Alloys	Aluminum Alloys	Copper Alloys
GENERAL TURNING	15-1	25-1	25-1	20-1	15 to 20-1	20 to 25-1	25-1
BORING	15-1	20-1	25-1	15-1	15-1	15-1	20-1
PLANING SPOT FACING	15-1	25-1	25-1	20-1	15 to 20-1	20-1	25-1
GENERAL MILLING	15-1	25-1	25-1	20-1	15 to 20-1	20-1	25-1
GENERAL DRILLING	10-1	10-1	15-1	10-1	10-1	10-1	10-1
TAPPING/REAMING	10-1	10-1	10-1	10-1	10-1	10-1	10-1
GEAR CUTTING HOBBING	10-1	10-1	10-1	10-1	10-1	10-1	10-1
SCREW MACHINES	10-1	10-1	10-1	10-1	10-1	10-1	10-1
THREADING	10-1	10-1	10-1	10-1	10-1	10-1	10-1
SAWING	15-1	15-1	15 to 20-1	15-1	15-1	15-1	15-1

BROACHING	5 to 10-1	10-1	10-1	10-1	5 to 10-1	10-1	10-1
SURFACE GRINDING	30-1	30-1	30-1	20-1	20-1	30-1	30-1
OD & FINISH GRINDING	25-1	20-1	25-1	20-1	20-1	25-1	25-1
ID & CYLINDRICAL GRINDING	20-1	25-1	25-1	20-1	20-1	25-1	25-1

THE CUTTER DILUTION RATIO VS. REFRACTIVE INDEX*	
5-1	21.0
10-1	10.5
15-1	7.5
20-1	5.0
25-1	4.0
30-1	3.2
35-1	3.0
40-1	2.5
50-1	2.0
*A/O Instrument Model 10440 Industrial Fluid Tester	

PACKAGING:

THE CUTTER is available in tankwagons; 330-gallon reusable totes; 275-gallon disposable totes; recyclable HDPE (High Density Polyethylene) 55, 30 and 15-gallon drums, and 5-gallon pails. Label copy is available in both English and Spanish. Secondary labels are also available.

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.

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.

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