

SPIRIT BIO 3300



Metalworking



TOTAL

Heavy-Duty, Micro-Emulsion for Aluminum Alloys

APPLICATIONS

- **SPIRIT BIO 3300** represents a technology breakthrough in the development of semi-synthetic metalworking fluids. It is recommended for the machining of aluminum alloys including aerospace aluminum.
- **SPIRIT BIO 3300** is also suitable for some ferrous and non-ferrous alloys.
- The outstanding performance characteristics of this micro-emulsion are obtained through a blend of mineral oil and synthetic esters.
- The concentration range is 6 to 12% and should be adjusted as necessary to maximize performance.

ADVANTAGES

- Easily forms a translucent micro-emulsion in all types of water
- Designed specifically for aluminum alloys including aerospace aluminum
- Suitable for medium to heavy-duty metal removal operations
- Bio-stable - provides long coolant sump life without unpleasant odor
- No additive top-treats necessary
- Contains no chlorine or sulfur
- Allows for cleaner machines and environment
- Greater operator acceptance
- Formula provides for rapid cooling of work piece and tool
- Will not stain aluminum
- Low foaming tendency, no tankside treatments of antifoam
- Rapid tramp oil rejection
- Consistent and reliable formulation
- Low misting tendency

TYPICAL CHARACTERISTICS	SPIRIT BIO 3300
Appearance	Clear Amber Liquid
Odor	Very Low Odor
Specific gravity @ 15.6 / 15.6 (conc.)	0.96
Density @ 60 F, lbs/gal	8.01
Chlorine and sulfur content	Nil
pH @ 5 %	9.1
Emulsion stability @ 5%	Stable
Foam break @ 5%, mixer method, sec.	5
Cast iron chip rust break point, %	3
Refractive Index, Factor	1.32
Emulsion @ 5% fresh dilution	Translucent Amber Liquid

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