

# SPIRIT 650 S



METALWORKING



**TOTAL**

Moderate-Duty, Semi-Synthetic, Micro-Emulsion for Ferrous & Non-Ferrous Metals

## APPLICATIONS

- **SPIRIT 650 S** is a translucent, semi-synthetic coolant concentrate, which is easily diluted with water in all concentrations. It represents the most up-to-date technology in the development of a bio-stable metalworking fluid for machining ferrous and non-ferrous metals.
- **SPIRIT 650 S** is generally non-irritating to operators. It is multi-metal compatible and has high lubricity for steel and aluminum cutting.
- **SPIRIT 650 S** is made with surfactants that are non-ionic which allows it to form a stable micro-emulsion with water of all qualities, from 0 to 700 ppm. It is waste treatable by Acid Alum method.
- **SPIRIT 650 S** is low foaming.

## ADVANTAGES

- Formulated to be naturally bio-stable
- Extreme pressure protection for long tool life
- Excellent lubricity properties
- Contains no sulfur, chlorine, nitrites, phenols, or diethanolamine
- Splits out tramp oil quickly
- Settles metal fines rapidly
- Keeps grinding wheels clean

TYPICAL CHARACTERISTICS	SPIRIT 650 S
	Appearance
Density @ 60 °F, lbs./gal.	8.156
Specific Gravity @ 60/60 °F	0.978
Flash Point, COC, °F	None
Copper Strip Corrosion	1A - 1B
Sulfur, %wt.	None
Chlorine, %wt.	None
pH @ 5%	9.56
Refractive Index Factor	1.67
Refractive Index @ 5%	3.00
Cast Iron Chip Rust Breakpoint	3%

Standard concentration is 5%. It may be used at 5 to 10% concentration depending on the type and severity of the operation. For grinding operations, 4 to 5% concentration is recommended. The concentration should be adjusted as necessary to maximize performance.

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