

FLC-223 Machining & Heavy-Duty Grinding Fluid

FLC-223 is a fully synthetic machining and grinding fluid. FLC-223 is formulated to perform both extremely heavy machining and precision grinding. Unlike most extreme or heavy-duty machining fluids, FLC-223 uses no conventional extreme pressure additives such as phosphate esters, fatty acids, chlorinated paraffins or sulfur compounds that are selectively depleted during long term use and are subject to biological attack. Thus, FLC-223 provides long-term trouble free tank life and will not build up on machine surfaces or parts.

FLC-223 can be used for light to heavy machining, turning, grinding, double disk grinding, OD and ID dimensional grinding, tapping and gun drilling.

Superior Machinability – FLC-223 increases tool life by reducing cutting forces and tool tip temperatures.

Extended Dilution and Corrosion Protection – FLC-223 provides superior corrosion protection even at dilutions of 25:1 with water. It also provides high levels of in-process corrosion protection, reducing the need for supplemental corrosion protection while parts are in process.

Use Concentrations May Vary – The concentration of FLC-223 can be adjusted from 10:1 to 30:1 for maximum economy, depending to the severity of the job.

Rapid Foam Collapse – Naturally low foaming under high agitation means the workpiece is always visible.

Oxidative, Biological, and Hydrodynamic Stability – FLC-223 will not break down even under the harshest operating conditions.

Unaffected by Hard Water – FLC-223 will not form scum or separate in water up to 450-ppm total hardness.

Calculating Starting Amount of Coolant – To calculate the correct amount of coolant to be added to the sump, multiply coolant sump volume by 7.5 (the number of gallons of liquid in a cubic foot).

Example:

Tank width = 2 ft

Tank length = 6 ft

Tank depth = 2 ft

Volume = $2 \times 6 \times 2 = 24$ cu ft

Liquid Volume = $24 \times 7.5 = 180$ gal

For a 50:1 concentration, add $180/50 = 3.6$ gal to the coolant tank.

Adding FLC-223 to the Coolant Tank – When diluting FLC-223, ensure that the machine sump is clean and free of built up glass fines and other foreign materials. Always add water to the sump first after cleaning, and then add FLC-223. Circulate the sump for several minutes before starting production to give the tank time to completely mix.

Checking Concentration – Coolant concentration should be checked daily whenever possible. The simplest method is with a hand held refractometer. For the best results, always filter the coolant through a 1-

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micron filter before reading the solution concentration. Once the coolant has been filtered, place a drop or two on the face of the refractometer. Hold the instrument up to the light and read the number just at the light colored line on the screen face. Write down and use it to refer to the refractive index chart enclosed with the product. Find the reading on the refractometer and locate it on the left-hand side of the chart. Now read to the right and down to determine the current dilution.

Recommended Starting Dilutions

Grinding 20:1 - 25:1

Typical Properties

Appearance	Clear Purple Liquid
Volatile Component	Water
Freeze Point	32°F
Boiling Point	212°F
pH	10 - 10.3
Evaporation Rate	NA
Odor	Mild
Vapor Pressure	NA
Vapor Density	NA
Specific Gravity	1.067
VOC	None
Weight per Gallon	8.9
Solubility in Water	Infinite

Packaging and Handling – FLC-223 is a liquid packed in non-returnable drums, Tote Bins, Pails, and Bulk. Refer to the Material Safety Data Sheet for suitable materials of construction, for handling, and storing of this product. Observe all safety precautions shown on the label and in the Material Safety Data Sheet.

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