

KEYCOOL[®] 2000 – Lactuca 5304 S

Heavy-Duty Water-Soluble Coolant

Keycool 2000 (Lactuca 5304 S) is the result of modern water-soluble coolant technology. When mixed with water, a light blue emulsion is formed that outperforms most petroleum and synthetic water-soluble coolants. This multipurpose coolant mixes easily with both hard and soft water and performs exceptionally well on heavy-duty cutting operations. Plus, Keycool 2000 (Lactuca 5304 S) is fortified against rancidity, assuring long sump life. The coolant performs equally well in both central systems and individual sumps and provides interim rust protection.

Keycool 2000 (Lactuca 5304 S) is adaptable to both ferrous and non-ferrous metals for almost any machining application. Non-ferrous metal parts should be cleaned soon after manufacture. In grinding, it settles fines rapidly and keeps wheels clean. In cutting, superior finishes and excellent tool life are expected.

Features	Performance
<ul style="list-style-type: none"> ▪ Versatility ▪ Contains Bactericide ▪ High Performance Additives ▪ Reduces Heat and Friction ▪ Excellent Interim Rust Protection ▪ Blue Color / Pleasant Odor 	<ul style="list-style-type: none"> ▪ Used for Most Machining and Grinding Operations ▪ High Stability Even During Idle Periods ▪ Produces Smoother Finish And Prolongs Tool Life ▪ Better Finishes and Protects Tool Against Wear ▪ Protects Parts And Extends Tool Life ▪ High Operator Acceptance ▪ Fights Rancidity

Applications	Method of Mixing*
<ul style="list-style-type: none"> ▪ General to Difficult ▪ Machine Work ▪ Cutting ▪ Drilling ▪ Grinding ▪ Stamping ▪ Hack sawing ▪ Circular sawing ▪ Broaching 	<ul style="list-style-type: none"> ▪ Gear Hobbing ▪ Tapping ▪ Thread Rolling ▪ Boring ▪ Milling ▪ Reaming ▪ Turning ▪ Abrasive Cut-Off <p>Method of Mixing*</p> <p>To ensure a strong stable emulsion, always mix Keycool 2000 (Lactuca 5304 S) into the water while agitating. Never the reverse.</p> <p>Cleaning of Parts</p> <p>Parts cleaning can be accomplished with a hot, mild alkaline wash, or an agitated hot water wash immediately after machining or forming operations.</p>



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Recommended Starting Dilutions *

Operation	Parts Water	Parts Keycool 2000
Broaching, Gear Hobbing, Hack & Circular Sawing, Tapping, Thread Rolling	10-20	1
Boring, Drilling, Milling, Reaming, Threading, Turning	20-30	1
Surface Grinding	30	1
Centerless, Cylindrical & Internal Grinding, Abrasive Cut-Off	40-60	1
Roll Forming, Light Gauge Stamping	5-10	1

Use the American Optical Refractometer Fluid Tester, Model 10440, or the Atago Refractometer, Model SPR-N to confirm Keycool 2000 (Lactuca 5304 S) concentration.

* Exact concentrations depend upon the severity of the operation.

Keycool[®] 2000 (Lactuca 5304 S) Typical Properties

Product Code #	200218
Appearance	Dark Blue
Gravity, API 60 °F	9.8
Density, lbs./gal., @ 60°F	8.34
Pour Point, °F ASTM D 97	5
Flash Point C.O.C., °F, ASTM D 92	340
Chlorine/Extreme Pressure Additive, %	12.0
Anti-Foam Characteristics	Quick Break
Hard Water Stability, (300 ppm)	Good
pH Value -Concentrate	9.3
pH Value - 5% Solution	9.3
Residue After Water Evaporation	Fluid, Non-gumming
Rust Test, Cast Iron Chips:	Pass
Copper Strip Corrosion, ASTM D130	1A
Emulsion System	macro
Emulsion Stability, 4 Hours (10%)	excellent
Nitrites, Phenolics, Heavy Metals, PCB's, Phosphates, PTBBA	none

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