



CommCool™ HD-ND

Non-Chlorinated Semi-Synthetic Metalworking Fluid



WHAT IT DOES:

CommCool™ HD-ND semi-synthetic metalworking fluid has been specifically formulated to provide you with superior performance for all your metalworking needs. **CommCool™ HD-ND** is one of the most economical and most efficient products available on the market today. **CommCool™ HD-ND** offers a broad range of performance features. This product has excellent bio-resistance, emulsion stability, plus rust and corrosion prevention characteristics that exceed other available products. This unique formulation provides superior cooling and lubricity properties, which promote increased tool life and superior surface finishes. **CommCool™ HD-ND** is formulated to work in a wide range of water hardness conditions and to perform well even in moderately hard or very soft water. **CommCool™ HD-ND**, like all Commonwealth products, has optimal health, safety and environmental benefits designed right into the product. **CommCool™ HD-ND** has additional lubricity and extreme pressure additives, giving it the performance characteristics needed for medium to heavy duty machining applications.

WHERE TO USE IT:

CommCool™ HD-ND is highly recommended for:

- Lathes
- Drill Presses
- Milling Machines
- CNC Machines

PERFORMANCE BENEFITS:

CommCool™ HD-ND has been specifically formulated to deliver the following performance benefits:

- Excellent lubricity properties for medium to heavy duty work.
- Economical.
- Mixes readily with water of varying degrees of hardness.
- Exhibits excellent bioresistance characteristics.
- Operator and environmentally safe.
- Has excellent corrosion protection.
- Can be rinsed away easily with water.



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TECHNICALLY SPEAKING:

Test	CommCool™ HD-ND
pH Concentrate	10 ±10%
pH @ 5%	9 ±10%
Cast Iron Chip Test – ASTM#D-4627 (Modified)	Pass
Refractive Index (RI) Factor	Multiply RI by 1.78 for concentration %
RI for 5% emulsion	2.80
RI for 10% emulsion	5.60
Density, lbs./US Gallon	8.32
Specific Gravity	1.00

These are typical figures and do not constitute a specification.

Handling & Safety Information

For information on the safe handling and use of this product, refer to the Material Safety Data Sheet obtainable from Commonwealth Oil Corporation.

The Effects of Water Quality on Emulsion Stability

To obtain the best performance from this or any water miscible metalworking fluid, begin with quality water. Water hardness in parts per million (PPM) of calcium and magnesium varies by region. To determine your plant's water hardness, telephone your regional Water Treatment Plant or send a 4 ounce sample to our laboratory, and we will determine the water hardness for you. Water hardness may also be reported in grains of hardness. To convert to parts per million, multiply by 17.5 (1 grain = 17.5 PPM). The best emulsion stability and wetting ability are obtained with reverse osmosis, distilled or de-ionized water or a blend of them. The ideal water hardness range is greater than 25 PPM but less than 125 PPM. Exceptionally hard water (above 200 PPM) can have a de-stabilizing effect on this coolant, and can often prematurely deplete rust inhibitor, metal passivating, and other performance additives. To ensure optimum performance of the coolant, mix according to the following minimum concentrations.

SUGGESTED MINIMUM MIXING CONCENTRATIONS FOR WATER HARDNESS					
	0 – 50 PPM	50 – 100 PPM	100 – 200 PPM	200 – 300 PPM	300 – 400 PPM
CommCool™ HD-ND	4% (25:1)	4.5% (22:1)	5% (20:1)	6% (16:1)	7% (13:1)

Proper Mixing and Care of Coolants

- ◆ Always add concentrate to water with a small amount of agitation
- ◆ Protect product from freezing
- ◆ If product has frozen, allow it to thaw naturally and completely to room temperature. The product should be checked for consistency. If necessary, product can be re-mixed with slight agitation
- ◆ Store coolant containers indoors. If coolant drums must be stored outdoors, place them on their sides to minimize the potential for water to enter drums
- ◆ Never expose coolants to temperature extremes
- ◆ Do not add any other compound to this or any other coolant unless recommended by the manufacturer



Available in Pails, Drums and One-Way Bulk Containers

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