

## NATIONAL Cutwell Oil

NATIONAL Cutwell Oil is a standard performance water-soluble cutting fluid designed for general purpose machining. It forms a stable, milky emulsion, providing excellent cooling, lubricity, and corrosion protection for ferrous and various non-ferrous metals. Ideal for a wide range of operations such as turning, drilling, grinding, milling, this product delivers consistent performance in diverse machining environments.

### Benefits

- Enhanced lubricity reduces friction between the tool and workpiece, enabling higher production rates.
- Improved surface finish and excellent corrosion protection help extend tool life and reduce wear.
- Superior cooling properties transfer heat effectively away from the cutting zone.
- A well-balanced mix of base oil, emulsifiers, and coupling agents creates stable, long-lasting emulsions.

### Applications

- Ideal for a variety of general-purpose machining operations, including turning, milling, drilling, and tapping.
- Works efficiently on both CNC and manual machines.
- Suitable for use in centralized as well as individual machine coolant sumps.
- Soft water is recommended for best performance.

### Recommended Concentrations

<b>Operation</b>	<b>Mild steel</b>	<b>Alloy Steel</b>	<b>Aluminum Alloys</b>
<i>Milling, &amp; Drilling</i>	5-6%	5-6%	5-6%
<i>Reaming Tapping &amp; Screwing</i>	6-8%	8-10%	6-8%
<i>Grinding</i>	3-4%	3-4%	3-4%

### Coolant Management System – User Guidelines

- To maximize performance, tool life, and emulsion stability, proper coolant management is essential.
- Follow the steps below for system cleaning, coolant preparation, and ongoing maintenance.

### System Cleaning- Machine preparation

- 1) Add 2% system cleaner to the existing cutting fluid and circulate for 48 hours.
- 2) Remove all existing fluids, then flush the system with either water or a very diluted mix of cutting fluid.

### Product Characteristics

<b>Properties</b>	<b>Test Method</b>	<b>Unit</b>	<b>Cutwell Oil</b>
Density at 15 °C	ASTM D4052	kg/L	0.8963
Kinematic Viscosity at 40 °C	ASTM D445	cSt	49.9
pH of 5% Emulsion	Internal	-	7.1
Emulsion Stability	Visual	-	Pass
<i>Product Code</i>			<i>539022</i>

- \* Information, test methods, figures are typical and conform to specification; minor variation may occur.
- \* Refer to Owner's Manual for the manufacturer's recommended performance level, viscosity grade, and builder approval requirements.
- \* Please refer to the product Safety Data Sheet (SDS) for health, safety, and handling information.

