



## Product Bulletin

### J-Cut NCL Series Premium Non-Chlorinated Cutting Oils

#### Description

The **J-Cut NCL Series** are a series of cost effective high performance cutting oils designed for a wide variety of operations with out the use of any chlorinated compounds. Applications include drawing, broaching, threading, tapping, deep hole boring, trepanning and form grinding of steels and non-ferrous metals. Based on a variety of state of the art synthetic additives, these products come in several activities and viscosities that will satisfy most all applications.

#### Performance Benefits

- Multi-metal capabilities – NCL-1 does not stain aluminum, copper, brass or bronze
- Excellent performance on a variety of metals in a variety of applications
- High flash point, good oxidation stability and high viscosity index

#### Recommended Applications

<b>Metal Removing Operation</b>	<b>Non Difficult</b> Sawing, Milling, Turning, Drilling, Boring	<b>Medium Difficult</b> Chasing, Forming, Grinding, Reaming, Tapping	<b>Very Difficult</b> Broaching, Form Grinding, Gear Cutting, Hobbing, Thread Grinding	<b>Special</b> Lapping, Honing, Thread Cutting, Deep Hole Boring, Trepanning
<b>Class I</b> Above 90% Machinability Low Carbon Steel	NCL-1	NCL-1	NCL-2	NCL-3
<b>Class I</b> 75 - 90% Machinability Carbon Steel	NCL-1	NCL-2	NCL-3	NCL-3 NCL-4
<b>Class II</b> 50 - 75% Machinability Alloy Steel	NCL-2	NCL-3	NCL-4	NCL-3 NCL-4
<b>Class III</b> Below 50% Machinability Special Alloy	NCL-3	NCL-4	NCL-5 NCL-6	NCL-4 NCL-5 NCL-6
<b>Class IV</b> Above 100% Machinability Non Ferrous	NCL-1	NCL-1	NCL-4	NCL-4 NCL-5 NCL-6

## Typical Characteristics

<b>Property</b>	<b>NCL-1</b>	<b>NCL-2</b>	<b>NCL-3</b>	<b>NCL-4</b>	<b>NCL-5</b>	<b>NCL-6</b>
<b>Appearance</b>	clear yellow liquid	clear yellow liquid	clear yellow liquid	clear yellow liquid	clear yellow liquid	clear yellow liquid
<b>Odor</b>	bland	Bland	bland	bland	Bland	Bland
<b>Viscosity, SUS @ 100°F</b>	116	123	138	167	276	250
<b>% Active Sulfur</b>	nil	0.80	1.60	nil	Nil	0.8
<b>% Inactive Sulfur</b>	nil	Nil	nil	0.80	1.60	1.60
<b>% Phosphorous</b>	0.14	0.19	0.38	0.19	0.38	0.38
<b>Reichert Wear Test</b>	13.13	3.95	1.42	3.72	1.40	1.21