

PREMIUM CUTTING OIL

PRODUCT CODE: 39216

DESCRIPTION

49 NORTH® PREMIUM CUTTING OIL is used broadly in machine shops as a multifunctional cutting fluid. It is primarily formulated to cool and lubricate the contact point of the tool and the work piece.

QUALITIES

49 NORTH® PREMIUM CUTTING OIL is an extremely versatile fluid designed to meet many of the situations encountered in the metal working industry.

49 NORTH® PREMIUM CUTTING OIL is an emulsifying oil that readily mixes with water, forming a homogeneous and exceptionally stable emulsion. It is used in the machine of both ferrous and nonferrous metals, particularly when cutting with carbon or high speed steel or tungsten carbide tools. 49 NORTH® PREMIUM CUTTING OIL contains an effective biocide that combats bacterial growth, rancidity, and odor in machine sumps.

APPLICATIONS

49 NORTH® PREMIUM CUTTING OIL is recommended for metals (except magnesium) where maximum cooling is desired – particularly when cutting with carbon, high speed steel, or tungsten carbide tools. Hot magnesium is a fire hazard when it contacts water.

49 NORTH® PREMIUM CUTTING OIL is used extensively in milling, drilling, gear cutting, turning, planning, shaping, sawing, and grinding applications.

49 NORTH® PREMIUM CUTTING OIL is typically diluted in water/oil ratios ranging from 10:1 to 50:1. See the mixing recommendations chart for more information. Always add oil to water to avoid forming sticky invert emulsions that do not emulsify properly in water.

FEATURES & BENEFITS

Good rust protection for steel work and machined parts, even when water/oil emulsion is 80:1

Minimal separation from emulsion, even with hard water

Maximized cooling by metal wetting

Good ability to control bacterial growth and rancid odor.

Good stability in storage.

CONTACT

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TYPICAL PROPERTIES

Product Code	39216
API Gravity (ASTM D-1298)	21.6
Pour Point (ASTM D-97), °C	-30
Flash Point (ASTM D-92), °C	160
Viscosity	
cSt @ 40 °C	38.0
cSt @ 100 °C	5.2
Total Sulfur, wt %	0.30
Active Sulfur, wt %	None
Volatile Organic Content (VOC), g/L ASTM E-1868-10	44

The typical properties listed reflect the general characterizes of the product, and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

HEALTH & SAFETY

A complete Safety Data Sheet (SDS) is available upon request.

Emulsions of soluble metal working fluids and way may become contaminated with harmful microorganisms such as bacteria and fungus, which can cause illness and infection. This can occur even in emulsions with fluids that initially contain some biocide, if the biocide becomes depleted during service. A metalworking fluid maintenance program should be followed in order to control this hazard, and may include additional use of biocides.

PACKAGE SIZES

Available in 18.9 L pails.

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MIXING RECOMMENDATIONS

Material	Turning, Shaping, Planing, Drilling	Milling	Pipe and Plain Threading	Automatic Screw Machines	Grinding	Thread Grinding	Deep Drilling	Gear Shaving or Cutting
Plain, medium, and high carbon steels	20:1	20:1	→	20:1	50:1	20:1	→	20:1
Alloy steels	15:1	15:1	→	15:1	50:1	15:1	→	15:1
Ingot iron, wrought iron, low carbon steels	15:1	15:1	→	15:1	50:1	15:1	→	15:1
Stainless steels, tool and die steels	10:1	10:1	→	10:1	50:1	10:1	→	10:1
Aluminum and aluminum alloys	25:1	25:1	30:1	30:1	50:1	30:1	20:1	30:1
Copper and brass	25:1	25:1	30:1	30:1	→	→	20:1	30:1
Zinc and zinc alloys	25:1	30:1	30:1	30:1	→	→	20:1	→
Bronze and high strength copper alloys	10:1	10:1	10:1	10:1	50:1	10:1	→	10:1
Magnesium and magnesium alloys	FIRE HAZARD							
Titanium and titanium alloys	10:1	10:1	→	→	→	→	→	→
Nickel and nickel alloys	10:1	10:1	→	10:1	50:1	10:1	→	10:1
Cast iron	Dry	Dry	Dry	→	Dry	Dry	Dry	Dry

The first figure indicates parts of water. Second figure indicates parts of Cutting Oil.

→ Seldom Used

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