



# CITGO® CITCOOL® SS-HD

## OVERVIEW

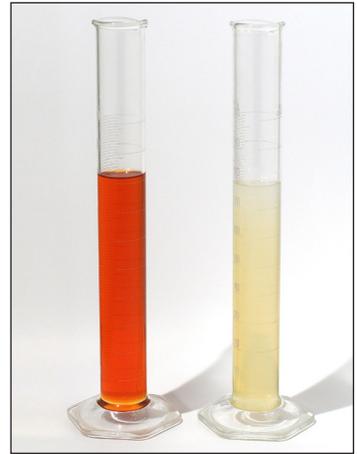


- CITGO CITCOOL SS-HD is a water extendable semi-synthetic coolant recommended for heavy-duty applications. The product is suitable for job shops where one coolant is needed to machine a variety of metals in multiple operations.

## FEATURES & BENEFITS



- Forms stable emulsions in various water hardness up to 1000ppm
- Low foaming tendencies
- Medium oil content
- Free of chlorine, secondary amines, phenols, nitrates, PCB's, and heavy metals
- Product performance is constant and machine remains clean
- Reliable in-service performance and long sump life
- Heavy-duty machining capability
- Ease of disposal and friendly work environments



Concentrate      Diluted with Water

## APPLICATIONS



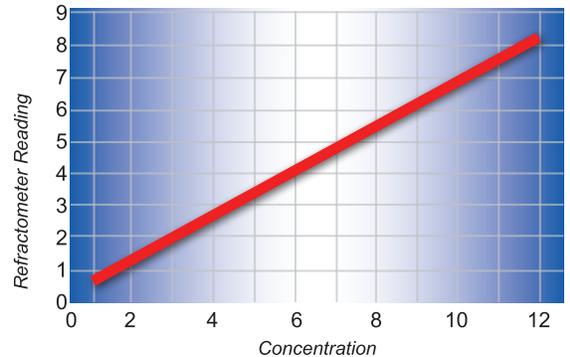
- CITGO CITCOOL SS-HD is recommended for general machining including thread cutting and forming, deep hole drilling and boring, reaming, and grinding of cast irons, ferrous alloys and stainless steels, free cutting aluminum alloys, oil resistant plastics, and other non-ferrous materials.

### Material Compatibility

	Recommended	Highly Recommended
<b>P - Steels</b>	Recommended	
<b>M - Stainless Steel</b>	Recommended	
<b>K - Cast Iron</b>	Recommended	
<b>N - Non-ferrous *</b>	Recommended	

\*Might stain some sensitive aluminum alloys. e.g. 2000 and 7000 series

### Refractometer Chart



Refractometer Reading at 10% = 6.8 °Brix  
Refractometer Factor = 1.47

## PROPERTIES



## Typical Properties for CITGO CITCOOL SS-HD:

<b>Material Code</b>	<b>639335001</b>
Appearance, Concentrate (neat)	Amber Fluid
Dilution (5% in DI water)	Semi-Translucent
Gravity, Specific, ASTM D1298, 60/60°F	1.02
Mineral Oil Content %	20
pH at 3% concentration	9.5 (5%)
Defoaming mL (5% in 50 ppm water)	Nil (60 sec.)

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METAL MACHINABILITY GROUPS<sup>(1)</sup>

	<b>1</b> Non-Ferrous, Soft Metals <sup>(2)</sup>	<b>2</b> Nickel Alloys, Nitalloy Steels, Cast Irons and Alloy Steels (up to 200 Brinell)	<b>3</b> Stainless Steels, "Monel" Metals, Cast Irons and Alloy Steels (200 to 300 Brinell)	<b>4</b> Titanium Alloys, High Tensile Nickel Alloys, Austenitic Stainless Steels, Tool Steel and High Tensile Alloy Steels (300 to 400 Brinell)
<b>Machining Operation</b>				
Turning, Boring, Milling, Forming, Drilling, Sawing	<b>5-7%</b>	<b>5-7%</b>	<b>8-10%</b>	<b>8-10%</b>
Tapping, Thread Rolling, Reaming, Screw Cutting, Broaching	<b>5-7%</b>	<b>5-7%</b>	<b>8-10%</b>	<b>8-10%</b>
Gear Shaping, Form and Thread Milling, Shaving, Hobbing, and Trepanning	<b>5-7%</b>	<b>5-7%</b>	<b>8-10%</b>	<b>8-10%</b>
Internal and External Grinding, Form and Thread Grinding	<b>5-7%</b>	<b>5-7%</b>	<b>5-7%</b>	<b>5-7%</b>
Stamping	<b>5-20%</b>	<b>5-20%</b>	<b>5-20%</b>	<b>5-20%</b>

**Notes:** (1) Dilution ratios shown are approximate and may require higher or lower water concentrations depending on a number of factors including the type of metal cut, machine speed, the severity of the operation, metal hardness, etc.  
(2) CITCOOL SS-HD might stain sensitive aluminum alloys such as 2000 and 7000 series alloys.

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