



# **CITGO**

# **Metalworking Fluids**

# CITGO PRODUCTS



- MINERAL BASED
- EMULSIFIABLE OILS
- SYNTHETIC COOLANTS

# CITGO PRODUCTS



## ■ MINERAL BASED

### Active

Cutting Oil NC 120  
Cutting Oil NC 130  
Cutting Oil NC 140

### Inactive

Cutting Oil NC 400  
Cutting Oil NC 425

# MINERAL BASED



- Lubricity
- Less Maintenance
- EP Properties
- Low Mist
- High Flash
- Non Chlorine Containing

# ACTIVE SULFUR



	<u>NC120</u>	<u>NC130</u>	<u>NC140</u>
<b>Vis, SUS @ 100</b>	<b>110</b>	<b>115</b>	<b>120</b>
<b>Color, ASTM</b>	<b>L5.5</b>	<b>L5.5</b>	<b>D8</b>
<b>Flash, °F</b>	<b>370</b>	<b>360</b>	<b>370</b>
<b>Fat</b>	<b>2.0</b>	<b>2.0</b>	<b>6.0</b>
<b>Sulfur</b>	<b>1.7</b>	<b>2.2</b>	<b>2.6</b>
<b>Active Sulfur</b>	<b>1.3</b>	<b>1.9</b>	<b>1.9</b>
<b>Chlorine</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

# INACTIVE



	<u>Fat</u>	<u>Sulfur</u>	<u>Active Sulfur</u>	<u>Chlorine</u>
Cutting Oil NC 400	<b>2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Cutting Oil NC 425	<b>3.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

# EP PROPERTIES



	<b>4-BALL SCAR, MM, 20 KG LOAD</b>	<b>4-BALL SCAR, MM, 40 KG LOAD</b>	<b>FALEX LOAD VALUES, lbs.</b>
NC 120	<b>0.44</b>	<b>0.62</b>	<b>2750</b>
NC 130	<b>0.34</b>	<b>0.51</b>	<b>3250</b>
NC 140	<b>0.50</b>	<b>0.80</b>	<b>2250</b>
NC 400	<b>0.30</b>	<b>0.65</b>	<b>2250</b>
NC 425	<b>0.26</b>	<b>0.55</b>	<b>4250</b>

# **EMULSIFIABLE OILS (SOLUBLE)**



- **Better Heat Removal**
- **Low Foaming**
- **Good Rust Protection**
- **Biological Resistance**
- **Emulsion Stability**

# EMULSIFIABLE OILS (SOLUBLE)



## NC 205

- Conventional Soluble
- Excellent Cooling
- Stable Emulsions
- Rust Protection
- Multi purpose

## NC 215

- EP Type Soluble
- Heavy Duty Uses
- Non-Chlorine
- Stable Emulsions
- Mixes Readily

# EMULSIFIABLE OILS (SOLUBLE)



	<u>NC 205</u>	<u>NC 215</u>
Color	3.0	5.0
Viscosity @ 40°C	30	32.5
Corrosion	Pass	Pass
Copper Corrosion	1B	1B
pH	9.3	8.4
Stability	Pass	Pass

# SYNTHETIC FLUIDS



- **Easy to mix - Stable in hard water**
- **Suitable for Ferrous and Copper Alloys**
- **Excellent Cooling**
- **EP Lubricity**
- **Corrosion Protection**
- **Foam Control**
- **Washes Off with Cool Water**
- **Contains Biogrowth Inhibitor**

# CITCOOL



## CITCOOL 22

- Microemulsion
- Transparent
- Non-staining to:
  - Aluminum
  - Magnesium
- Yellow Color

## CITCOOL 33

- True Solution
- Heavy Duty EP
- Improves Work Finish:
  - Stainless - Titanium
- Balanced Lubricity
- Blue Color

# CITCOOL



<u>TEST</u>	<u>CITCOOL 22</u>	<u>CITCOOL 33</u>
Appearance (Neat)	Clear, Amber Liquid With Dark Orange Tint	Clear Blue
Appearance (4% in DI Water)	Clear Yellowish / Orange	Clear Blue
pH (Conc)	7.9 - 8.9	9.1 – 9.9
Viscosity, cSt @ 40°C	5 - 6	3 - 4
Reserve Alkalinity	130 - 145	
Rust Test	Pass	Pass
Copper Corrosion		1B
Falex Load	4500	4500