CITGO

CITGO AUTOKUT® IS SERIES

Date 04/13

DESCRIPTION:

CITGO Autokut IS Series of non-staining metal removal oils are designed for machining non-ferrous metals and many ferrous metals. CITGO Autokut IS Series are available in two viscosity grades to meet the requirements of a modern engineering facility. The lower viscosity grade is used for higher speed lighter duty applications and the higher viscosity is used for slower speed heavier duty operations.

FEATURES:

- Excellent lubricity and mild EP
- · Compatible with all metals
- · Chlorine free
- · Light in color
- · Contain a stable oil mist suppressant

BENEFITS:

- Improved productivity and lower costs of operation
- · Non staining on ferrous and non-ferrous metals
- · Benefits environmental needs and reduces disposal costs
- · Aids visibility of operation
- Improves working environment and worker safety by minimizing mist formation



APPLICATIONS:

CITGO Autokut IS 15 is a low viscosity oil, primarily recommended for all machining operations on aluminum and magnesium and their alloys. This light viscosity product has additional applications in deep drilling and the honing of steel, cast iron and alloyed copper.

CITGO Autokut IS 46 is designed for more severe duty applications and contains a high level of non-staining extreme pressure agent to permit its use over a wide variety of materials, and over a wide range of cutting depths, feeds and speeds. It can also be used in turning, sawing, milling and drilling of non-ferrous metals as well as some plain carbon steels and free-machining steel alloys.



Material Compatibility

| | Recommended | Highly Recommended |
|---------------------|-------------|--------------------|
| P - Steels | | |
| M - Stainless Steel | | |
| K - Cast Iron | | |
| N - Non-ferrous | | |
| | | |

(Continued)



CITGO AUTOKUT® IS SERIES

Date 04/13 - (Continued)

TYPICAL PROPERTIES - CITGO AUTOKUT® IS SERIES

| Material Code 639440001 639443001 Gravity, ASTM D 4052, °API 31.9 31.1 Gravity, Specific, ASTM D 1298, 60/60°F 0.866 0.870 Density, Ib/gal 7.1 7.3 Flash Point, COC, ASTM D 92, °F (°C) 361 (183) 428 (220) Viscosity, cSt at 40°C 18 45 cSt at 100°C 3.9 6.9 SUS at 100°F 95 230 SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B Active Sulfur No No | Grade | IS 15 | IS 46 |
|--|--|-----------|-----------|
| Gravity, Specific, ASTM D 1298, 60/60°F 0.866 0.870 Density, lb/gal 7.1 7.3 Flash Point, COC, ASTM D 92, °F (°C) 361 (183) 428 (220) Viscosity, cSt at 40°C 18 45 cSt at 100°C 3.9 6.9 SUS at 100°F 95 230 SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | Material Code | 639440001 | 639443001 |
| Density, lb/gal 7.1 7.3 Flash Point, COC, ASTM D 92, °F (°C) 361 (183) 428 (220) Viscosity, cSt at 40°C 18 45 cSt at 100°C 3.9 6.9 SUS at 100°F 95 230 SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | Gravity, ASTM D 4052, °API | 31.9 | 31.1 |
| Flash Point, COC, ASTM D 92, °F (°C) Viscosity, cSt at 40°C CSt at 100°C SUS at 100°F SUS at 210°F Color, ASTM D 1500 Pour Point, ASTM D 97, °F (°C) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 361 (183) 428 (220) 45 45 45 45 45 49 6.9 39 49 Color, ASTM D 1500 0.5 -44 (-42) 1 A/B 1 A/B | Gravity, Specific, ASTM D 1298, 60/60°F | 0.866 | 0.870 |
| Viscosity, cSt at 40°C 18 45 cSt at 100°C 3.9 6.9 SUS at 100°F 95 230 SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | Density, lb/gal | 7.1 | 7.3 |
| cSt at 100°C 3.9 6.9 SUS at 100°F 95 230 SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | Flash Point, COC, ASTM D 92, °F (°C) | 361 (183) | 428 (220) |
| SUS at 100°F 95 230 SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | Viscosity, cSt at 40°C | 18 | 45 |
| SUS at 210°F 39 49 Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | cSt at 100°C | 3.9 | 6.9 |
| Color, ASTM D 1500 0.5 0.5 Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | SUS at 100°F | 95 | 230 |
| Pour Point, ASTM D 97, °F (°C) -44 (-42) -6 (-21) Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | SUS at 210°F | 39 | 49 |
| Copper Corrosion, ASTM D 130, 3 hrs at 212°F 1 A/B 1 A/B | Color, ASTM D 1500 | 0.5 | 0.5 |
| | Pour Point, ASTM D 97, °F (°C) | -44 (-42) | -6 (-21) |
| Active Sulfur No No | Copper Corrosion, ASTM D 130, 3 hrs at 212°F | 1 A/B | 1 A/B |
| | Active Sulfur | No | No |
| Phosphorus No No | Phosphorus | No | No |
| Lubricity Additive Yes Yes | Lubricity Additive | Yes | Yes |