# Mobilmet 420 Series

Mobil Industrial , Ireland

Premium Non-Corrosive to Copper, Moderate Duty Straight Cutting Oils

## Product Description

Mobilmet 420 Series products are high-performance multi-purpose cutting oils. They are chlorine-free, non-staining and non-corrosive. They are designed for light to moderate duty cutting operations and they are also suitable as machine tool lubricants and for use in light duty hydraulic systems. They are formulated from high quality base oils and select additives to provide effective machining performance in a wide variety of operations of both ferrous and non-ferrous metals. The oils are light-colored and transparent so that the work area can be clearly seen at all times. The Mobilmet 420s are formulated to prevent the formation of oil mist in the vicinity of the machine tool.

Mobilmet 420 Series fluids are resistant to foaming, even with excess splashing so that superior performance is provided in the machine tool lubrication system. With relatively low pour points and high viscosity indexes, they are not difficult to dispense in cold conditions and provide adequate film strength in hot-running machine tool bearings under load.

## Features and Benefits

Features and potential benefits of Mobilmet 420 products include:

In addition to their machining performance characteristics, the Mobilmet 420 Series fluids are multi-purpose in nature which helps reduce the problems associated with cross-contamination, thus improving production and reducing rejects. They are formulated using chlorine-free additives reducing the environmental impact of disposal and spillage. The Mobilmet 420 Series fluids control built-up edge and protect the tool tip from wear. They provide improved surface finish that may eliminate the need for finish turning or forming before grinding.

| Features | Advantages and Potential Benefits |
|---|---|
| Excellent machining performance | Increased production resulting from longer tool life and reduced downtime for tool changes and wheel dressing |
| | Improved surface finish and dimensional accuracy resulting in fewer rejects and better quality finished products |
| | Helps increase feed rates and machine speeds |
| Suitable for a wide range of ferrous and non-ferrous metals and machining operations | Fewer cutting oils required, potential for reduced inventory costs |
| Multi-service capability | Eliminates cross-contamination problems and provides further inventory benefits |
| Light, transparent color | Provides a clear view of the work area at all times |

## Applications

Mobilmet 420 Series fluids are recommended for a wide range of machining operations on all types of metals. They can be used as multi-purpose oils when a common fluid is required for machine tool lubrication and as a hydraulic fluid assuming proper viscosity selection.

Mobilmet 423 and Mobilmet 424 are recommended for machining aluminum, magnesium and copper, brasses and bronzes and, in addition, are recommended for steels and cast irons having a Brinell hardness up to 200. They can be used for severe cutting operations of difficult-to-machine non-ferrous alloys such as silicon-copper, silicon-bronze and copper-nickel. They are very effective lubricants for the machine tool lubrication system under a wide range of temperature conditions

Mobilmet 426 and Mobilmet 427 are recommended for critical machining of non-ferrous metals and automatic operations on materials having a Brinell hardness up to about 300

### Properties and Specifications

| Property | 423 | 424 | 426 | 427 |
|---|---|---|---|---|
| Grade | | ISO 22 | | ISO 46 |
| Copper Strip Corrosion, 3 h, 100 C, Rating, ASTM D130 | 1B (max) | 1B (max) | 1B (max) | 1B (max) |
| Density @ 15 C, kg/l, ASTM D4052 | 0.859 | 0.862 | 0.874 | 0.877 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 182 | 200 | 210 | 212 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 3.5 | | 5.7 | 6.9 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 15 | 23 | 32 | 46 |
| Pour Point, °C, ASTM D97 | -15 | -15 | -15 | -12 |

### Health and Safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com
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