



Mobilmet 400 Series

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

Product Description

Mobilmet 400 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 higher viscosity Mobilmet 420's are formulated to prevent the formation of oil mist in the vicinity of the machine tool.

Mobilmet 400 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 & Benefits

In addition to their machining performance characteristics, the MobilMet 400 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 400 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 and potential benefits of Mobilmet 400 products include:

Features	Advantages and Potential Benefits
Excellent machining capabilities	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
	Feed rates and machine speeds
Suitable for a wide range of ferrous and non-ferrous materials and machining operations	Fewer cutting oils required due to wide range of application, with potential for reduced inventory costs
Multi-service capability	Eliminates cross-contamination problems and provides further inventory benefits
Light, transparent colour	Provides a clear view of the work area given at all times
Reduction in oil mist (Mobilmet 420 Series)	Help contribute to a safer and more pleasant working environment

ExxonMobil Lubricants & Specialties

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Applications

Mobilmet 400 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 411 is recommended for machining aluminum, magnesium and copper, brasses and bronzes. It is particularly suited for deep hole drilling and similar high-speed operations. It can also be used for high-speed, light feedmachining of screw stock steels and as a lubricant for high-speed spindles
- Mobilmet 423 and Mobilmet 424 may be used with all of the metals covered by Mobilmet 411 and, in addition, they 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

Typical Properties

Mobilmet 400 Series	411	414	417	422	423	424	426	427
Viscosity, ASTM D 445								
cSt @ 40° C	5.9	23.7	46.5	2.66	16.1	22	35.3	43.3
cSt @ 100° C				3.7	3.7	4.5	6.2	6.9
Viscosity Index, ASTM D 2270				139	139	115		110
Pour Point, °C, ASTM D 97	-7.5	-12.5	-12.5	-7.5	-15	-21	-15	-12
Flash Point, °C, ASTM D 92	120	204	210	158	182	176	210	212
Specific Gravity @15° C kg/l, ASTM D 1298	0.845	0.871	0.891	0.845	0.859	0.869	0.874	0.877
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100° C	1B (max)	1B (max)	1B (max)	1B (max)	1B (max)	1B (max)	1B (max)	1B (max)

Health & Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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