

Mobilcut 102

Product Description

MOBILCUT 102 is a soluble cutting fluid suitable as a lubricant and coolant for application in most types of machining and grinding operations. MOBILCUT 102 oil offers the following features and benefits:

- ◆ Mobilcut 102 mixes readily with water to form stable emulsions
- ◆ Good rust preventive and antifoam properties
- ◆ Suitable for a wide range of metal cutting and grinding operations
- ◆ Formulated to effectively remove heat from the cutting operation

Primary Applications

MOBILCUT 102 is a premium quality soluble oil primarily used for light and medium duty machining applications where cooling is of primary importance, where lubricity and rust protection are also required. MOBILCUT 102 is formulated with a highly effective emulsifier package for outstanding emulsion stability and rust inhibition.

MOBILCUT 102 provide easy emulsification and extra protection against oil-water separation in adverse operating conditions, such as poor water quality or contamination of the emulsion with dirt or tramp oil.

At concentrations of 1 part oil to 10 to 20 parts water, **MOBILCUT 102** can be used for many light and medium duty machining operations such as milling, turning, boring, or planing with cast iron, malleable iron, carbon, alloy and stainless steels. At concentrations of 1:30, **MOBILCUT 102** may be used for machining plastics, rubber or fibre and at 1:50, for grinding ferrous and non-ferrous metals. **MOBILCUT 102** can also be used as general coolants at dilution ratios of 1:50 or 1:100 where some lubrication and rust protection is required, as in hydraulic systems where water is the fluid medium.

Diluted as 95:5 water-oil mixtures, they can be used as fire-resistant hydraulic oils. Also, manufactured parts can be cleaned and protected against rusting by immersing them in an emulsion at 66-82°C, then allowing the parts to dry.

MOBILCUT 102 contains a small concentration of biocide to protect the concentrate from deterioration in storage; it is not intended to provide long term protection against bacterial growth in finished emulsion systems.

A comprehensive line of petroleum based cutting fluids (Exxcut) as well as semi-synthetic and full synthetic coolants (Exxcool) are also available from Imperial Oil. Product Data Sheets for these and other products can be obtained from your Esso Representative or the www.imperialoil.ca website.

Preparation

Soluble oil is prepared for use by mixing with relatively large portions of water. The oil must always be added to the water. Never add the water to the oil. Usually one part oil is stirred into four parts water. Adding water to this mixture then makes the desired dilution. Oil should never be added directly to the existing emulsion.

Due to continual product research and development, the information contained herein is subject to changes without notification. Additional important health and safety information on this product can be found in the Material Safety Data Sheet, which is available online at www.imperialoil.ca/mobil or by contacting Lubricants and Petroleum Specialities, Technical Services, Technical Help Desk: 1-800-268-3183



For best emulsion stability, rust and bacterial growth protection, deionized or low hardness water (<100 PPM) should be used to prepare emulsions. It is important that the correct oil-water proportions be maintained in service. Evaporation of the water, which is especially rapid in machining operations that develop high temperatures, may enrich the emulsion excessively. Conversely, finely divided particles carried away by the emulsion may, when filtered out, remove more oil from the emulsion than water and thus make the emulsion leaner.

Oil concentration can be checked at any time by drawing off a representative sample in a graduated glass cylinder and breaking the emulsion with a saturated salt solution such as Epsom Salts. With the oil separated from the water, its concentration can easily be observed and corrected as necessary by adding oil or water. Alternatively, the emulsion strength can be estimated by the use of hand-held refractometers.

Avoid storing soluble oils below freezing temperatures. If freezing should occur, re-warm to room temperature and mix product well before using.

Typical Properties

GRADE	MOBILCUT 102
Colour, ASTM	2.0
Density @ 15 °C (kg/L)	0.89
Emulsion Stability	Excellent
Pour Point, °C	-6.0
Viscosity, cSt @ 40 °C	34

The values shown above are representative of current production. Some are controlled by manufacturing and performance specifications while others are not. All may vary within modest ranges

Precautions

MOBILCUT 102 is manufactured from quality petroleum base stocks blended with selected additives. As with all petroleum products, good personal hygiene and careful handling should always be practiced. Avoid prolonged contact with the skin, splashing into the eyes, ingestion, or vapour inhalation. This product contains materials which are irritating, and may injure eye tissue if not removed promptly. Frequent or prolonged contact may irritate the skin. Please refer to the Esso Material Safety Data Sheet for further information.

Note: **MOBILCUT 102** is controlled under Canadian WHMIS legislation

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