

MOL Makromil 300

universal metalworking fluid



MOL Makromil 300 is a boron-free water-miscible metalworking fluid having high mineral oil content. The product contains refined mineral oils, emulsifier, corrosion inhibitor, and components that modify the friction, as well as optimized biocide additives.

Free of MBO, MBM and HPT formaldehyde donors.

It is recommended to use mixing equipment for preparing the emulsion. The concentrate is always to be added to the water during agitated mixing. The concentration of the prepared emulsion should be checked using a calibrated refractometer. Refractometer factor: 0,9. Cleanliness of the system is a determining factor in terms of the operating life of the emulsion, so it is recommended to use MOL Netsol SC system cleaner before every change. Resistance to micro organisms can be ensured by maintaining a minimum emulsion concentration of 4-5 % (V/V).

Machining	Application concentration
Turning	5-8
Drilling	5-12
Milling	8-15
Sawing	5-8
Grinding	3-6

Application



Chip forming and chipless machining of steel, alloys, light and yellow metals

Various cutting technologies (turning, drilling, thread machining, etc.)

Chip forming machining of spheroidal graphite and grey cast iron

Features and benefits

Universal

Wide range of applicability enables reduction of the number of lubricating oils

Suitable for use in both individual and central supply systems

Ready miscibility with water

Simple and quick emulsion preparation

Excellent lubricity

Excellent surface quality and high manufacturing precision
Higher productivity, so reduced manufacturing costs

Low foaming tendency

Applicable in equipment operating at high pressure
Forms a continuous lubricating film, giving a balanced cooling effect and lubricity
Excellent surface quality and high manufacturing precision
Less downtime, giving reduced maintenance costs

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Features and benefits (continue)

Stability against microbial infection	Long charge drain period, pleasant working environment and cost efficiency
Excellent washing properties	Excellent machined surface quality Clean machine-tool and workpieces, even with cast machining
Excellent corrosion protection	No staining on copper workpieces
Excellent temporary corrosion protection	Effective temporary corrosion protection of workpieces, giving reduced surface treatment costs
Good hard water resistance	Forms a stable emulsion even with hard water No separation or sticky residues are formed on machines and workpieces
Excellent filterability	Reduced maintenance costs and environmental impact
Mild odour	More comfortable working environments
Free of boron, nitrites and secondary amines	Beneficial in terms of workplace health requirements

Specifications and approvals

EMAG
ISO 6743-7: L-MAA

Properties

Properties	Typical values
Appearance	brown, clear
Density at 15°C [g/cm ³]	0,875
Emulsion pH value (5% (V/V) / 20 dH°)	9,4
Emulsion foaming characteristics (5 % (V/V) / 20dH°)	
- foam volume promptly (5 % (V/V) / 20dH°) [cm ³]	20
Anticorrosion effect - Filter-paper test (5% (V/V) / 20 dH°) [grade]	1
Anticorrosion effect (5% (V/V) / 12dH°)	
- copper (5 % (V/V) / 12 dH°)	negative
Appearance of emulsion (5% (V/V) / 20dH°)	white, milky

The characteristics in table are typical values of the product and do not constitute a specification.

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Storage and handling instructions

Store in the original container in dry, properly ventilated area. Keep away from direct flame and other sources of ignition. Protect from direct sunlight. To preserve the original quality keep the suggested storage temperature. During transport, storage and use of the product follow the work safety instructions and environmental regulations relating to mineral oil products.

In the concentration specified for use and in case of keeping the health safety rules, the emulsions are not harmful to human health and do not cause skin affection.

For further details please read the Material Safety Data Sheet of the product.

In the original container under the recommended storage conditions: 18 months

Recommended storage temperature: +5°C - +40°C

Ordering information

Custom Tariff Number 27101991

SAP code and packaging:

13008192	MOL Makromil 300 X10L	10 l plastic can
13007361	MOL Makromil 300 50KG	60 l steel drum
13007362	MOL Makromil 300 180KG	216.5 l steel drum

Order booking:

Please contact your local distributor or sales partner for ordering details.