

# MAK SHEROL SUPER

## Description

MAK Sherol Super is a premium multi-purpose semi-synthetic metal working fluid designed for a multitude of machining and grinding operations on both ferrous and non-ferrous metals especially of titanium. It exhibits low foaming, excellent corrosion protection, bio-resistance properties along with non-staining qualities. It's excellent cooling, extreme pressure, and lubricity properties, makes it ideal for use in high speed machining of titanium, aluminum and even steel for aerospace, automotive and general industry applications where a premium fluid is needed. It does not contain sulfur, chlorine, nitrites, phenols, amines, and other heavy metals.

## Application

MAK Sherol Super is recommended for moderate to heavy duty machining applications such as milling, drilling, boring, reaming, turning etc. It is specially developed for machining of Titanium, Aluminum and its alloys. It can also used for machining of ferrous and non-ferrous materials.

Operations type	Suggested concentrations %
Difficult operations of materials	7-10
General machining	5-7
Grinding	3-5

## Benefits

- Contains synthetic lubricity esters that function as extreme pressure agents to reduce the coefficient of friction between the tool and the work piece interface.
- Forms stable micro emulsion in hard water environments making fluid reach point of cutting.
- Keeps parts and machines very clean to reduce maintenance and production time
- Offers extended tool life and superior part quality with good heat dissipation characteristics.
- Exhibits low foaming tendency.
- Low odor and mist provides a good working environment.
- Bio-resistance and biostability that allows for longer sump life and low coolant consumption thus reduces the cost for user.
- Contains no nitrites, amines, phenols, chlorinated, sulfurized EP additives and formaldehyde releasing biocides

## Performance Level

- Proprietary grade

## Technical Specifications

Characteristics	Test method	MAK Sherol Super
Appearance	Visual	Clear & Bright
Colour	Visual	Brown
Density @15°C, Kg/m <sup>3</sup>	ASTM D1298	0.914
Copper corrosion test, 3hrs, 100°C	ASTM D 130	1a
Emulsion test 5:1 & 20:1 ration emulsion with 400 ppm hardness (CaCO <sub>3</sub> )	IS 1448 : P 98	0 ml & 0 ml
5% Emulsion appearance	--	Opaque white
pH of 5% emulsion	--	8.8
Corrosion test, Break point, %	IP 287	3
Cast Iron corrosion test 20:1 ration emulsion with 400 ppm hardness (CaCO <sub>3</sub> )	IS 1115 Appendix-A	0/0-0
Frothing test 5:1 & 20:1 ratio in 200ppm hardness (CaCO <sub>3</sub> ), ml	IS 1448 : P 99	Nil in 30 Secs

All the mentioned values are typical which may vary from batch to batch.

## Storage and Handling

- Indoor Storage is always preferable
- Barrels should be kept horizontally with bunk position at 3 O'clock 9 O'clock position
- Barrels should be kept away from dusty or heated areas.
- During handling any contact with dust must be avoided.

## Health and Safety

These oils are not hazardous under normal conditions of use. For further guidance appropriate Material Safety Data Sheet (MSDS) may be referred.

## Advice

- For any further advice on applications or otherwise please contact the nearest Bharat Petroleum Territory Office or Technical Services Department at the address given below.

### **Bharat Petroleum Corporation Ltd.**

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