



TECHNICAL DATA SHEET

GRODAL SOL 133

High lubricity semi synthetic metalworking fluid for machining and grinding

GENERAL DESCRIPTION

Featuring extremely high lubricity and detergency GRODALSOL 133 is a semi synthetic soluble oil designed for machining and grinding of ferrous and non ferrous metals. It contains additives that protect against tarnish the copper alloys. GRODALSOL 133 features a high detergency, which improves the performance when abrasive tools are used, such as in super finish or grinding operations. Excellent surface finish is achieved because the product is based in synthetic oil with superior lubricity.

It easily emulsifies with water giving high stability emulsions, even with hard waters up to 400 ppm as CaCO₃. If deionised water is used to top up the systems the service life of the emulsion is extremely long, exceeding 2 years if a good filtering system and tramp oil skimmer are used. In a few cases combination of agitation, air trapping and temperature can produce an excess of foam, which uses to disappear after some working time. If foam gives trouble it is allowed to add an antifoam additive to the emulsion. Our Technical Service will help you in choosing the suitable antifoam additive.

The product contains a low toxicity non-phenolic biocide that produces good bacteriostatic behaviour provided that emulsions are free from sludge and tramp oil. During shutdown periods it is important to recirculate or blow air into the emulsion to avoid the growth of anaerobic bacteria. GRODALSOL 133 does not contain any phenol, chromate, nitrite, heavy metals, chlorinated additives and PTBB acid derivatives.

TYPICAL CHARACTERISTICS

Concentrate

| | | |
|------------------|---|------------------|
| Appearance | : | Dark viscous oil |
| Specific gravity | : | 0.91 |
| Flash point | : | 180 °C |
| Pour point | : | -6 °C |

Emulsion

| | | |
|-----------------------------------|---|---------------------------------|
| Appearance | : | Translucent - off White/white |
| pH at 5 % | : | 9 approx. |
| Herbert test | : | 0/0-0 |
| Rust test DIN 51360 p.2 | : | 0 |
| Copper tarnish, 48 h. at 50 °C | : | Class 1 according to ASTM D 130 |
| Corrosion on Aluminium | : | None. |

APPLICATION GUIDELINES

Typical concentrations for machining and grinding steel, copper alloys and aluminium alloys are from 3 to 6 % .To machine steel typical values ranges from 4 to 7 %. Nevertheless higher concentrations up to 12 % may be used in specific cases, where a higher lubricity is needed.

CHECKING THE CONCENTRATION OF THE EMULSION

- A. Adding sulphuric acid will split the emulsion up. The direct reading of the oily phase gives the concentration. Due to the high stability of the emulsion it may take a long time to split up. Keeping the mixture emulsion+sulphuric acid in oven at 60 –70 °C speeds up the oily phase separation.
- B. Direct reading in a hand refractometer. The factor is 1.

MIXING INSTRUCTIONS

The concentrate must be added upon the water (never the reverse), at room temperature, while stirring until full emulsification.

STORAGE

Store at temperatures above 0 °C. We recommend using the product before 6 months after the manufacturing date. After this period some haziness might appear, if so check whether the concentrate emulsifies easily and the emulsion is stable before using the concentrate.

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