

KUTROL 505 Full Synthetic Metalworking Fluid.

Super performance full synthetic cutting fluid.

KUTROL FLUID 505 is a high performance, fully synthetic cutting fluid with a wide range of applications. It contains additives designed to promote long product life and also a lubricity additive which provides excellent anti-wear properties, giving extended tool life. **KUTROL FLUID 505** is nitrite free

Features:

- Excellent cutting performance
- High performance in diamond wheel grinding
- Direct replacement for some neat oils
- Excellent anti-corrosion properties
- Extended tool life
- Long Fluid service life
- Good anti-foam properties
- Nitrite

Transparency :

Although colored dyed for identification **KUTROL FLUID 505** is essentially transparent and if properly maintained, remains so in service. this is an important factor where it is necessary for an operator to have a clear view of the work piece at all time

The fluid readily forms an aqueous solution, thus avoiding the complications of emulsion preparation an stability, and it can be used as a direct replacement for emulsifiable oils.

Service & Life

KUTROL FLUID 505 includes additives which are designed to ensure a long product life. When the solution strength and bacteria populations are checked regularly during service, it is possible to extend the life of the fluid so it can be more economical to use than emulsion type fluids and, in some cases, neat oils. Long product life also helps to alleviate disposability by reducing the frequency of disposal.

Rust Prevention

The anti-corrosion performance of **KUTROL FLUID 505** is good with all metals. In the case of ferrous metal, the fluid has not only been successfully tested against the IP 125 (Herbert Corrosion) test at high dilution, but has also been subjected to the fiat specification test, which is a particularly stringent anti-corrosion test for water based fluids.

Applications

KUTROL FLUID 505 can be used on a wide range of applications Traditional , C.N.C machines including tapping, drilling, milling, turning and boring ; it can also be used for grinding – particularly diamond wheel grinding where it has proved to be an excellent replacement for neat cutting oil.

Experience has show that, in addition to its excellent performance in cutting operations where traditionally, water extendible fluids are used, **KUTROL FLUID 505** can also be used effectively in many cases where neat cutting oils are normally recommended. This is extremely advantageous in terms of cost, eliminates problems with oil turning and provides more efficient cooling.

Mixing ratios

The precise concentration depends upon the specific application; however, for machining purposes water to fluid ratio of 20:1 to 30:1 are recommended and for grinding 33:1 to 66:1

During service the solution strength will tend to increase due to water evaporation. This will not normally have an adverse effect on a cutting or grinding operation, but it is obviously uneconomical.

It is, of course, necessary to add make-up solution from time to time and in practice because of the loss of water through Evaporation, it will be found that this needs to be less concentrated than the solution use, usually one-quarter to one-half the normal solution strength.

Solution strength during service is best determined by the use of a refract meter and calibration chart

Mixing KUTROL FLUID 505

Is not especially sensitive to the method used for preparing the working solution. It is however, preferable that the preparation should be carried out in a similar way to that used for conventional soluble oils, and that the fluid should be added to the water where possible solutions of **KUTROL FLUID 505** should be prepared in separate mixing tank rather than in the coolant tank of the machining tool. A measured quantity of neat fluid should be poured gradually into the correct volume of water for the dilution ratio required and the mixture stirred gently until all the fluid has been added. Alternatively proprietary mixing devices which draw a metered flow of fluid into a water stream may be used.

Water Use

KUTROL FLUID 505 will tolerate wide variations in water quality and most mains waters can be used for the preparation of solutions without pre-treatment; however, de-mineralized water should be used if possible.

Typical Physical Characteristics

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|---|--|------------------|
| - | Fluid Type: Full Synthetic Fluid. | |
| - | Color | :brownish |
| - | Viscosity @ 40 °C. | 19 c.St. |
| - | Density at 20 °C g/ml. | 1.23 |
| - | PH @ (5%) Dilution. | 9.9 |
| - | Rust Test IP 125: | Pass. |
| - | Refract meter Factor: | 1.9 |

These characteristics are typical of current production. Whilst future production will confirm to **KEMA-STARK** specification, variations in these characteristics may occur

KUTROL FLUID 505 in common with other synthetic cutting fluids should be stored under cover avoiding extremes of temperature. Packages should be kept sealed when not in use. Where storage of packages in open cannot be avoided, they should be kept on their side. If possible they should be stored on frame or other support to keep them off the ground so avoiding the collection of rain around the outlet holes which might subsequently contaminate the contents when package is opened

Discharge:

Methods of disposal of used emulsions and solutions vary widely. They depend on regulations laid down by the authorities, and also on the facilities available. It is therefore, preferable that a recommendations is made which takes into account both existing disposal practices and the local requirements

Health and Safety

KUTROL FLUID 505 is unlikely to present any significant health or safety hazard when properly used in the recommended application, and good standards of industrial and personal hygiene are maintained.

Technical

Advice on applications not covered in this papers may be obtained from your **KEMA-STARK** Representative