



EDMfluid HP 101

Next generation synthetic dielectric fluid, *non noxious* "R65"

Description

The **EDMfluid HP 101** is an innovative multipurpose dielectric fluid with medium viscosity grade and short distillation range (only 5°C), formulated with a *special* synthetic paraffin hydrocarbon, specially refined at a high surface tension, which prevents the fluid from being classed noxious according to "R65" description.

The **EDMfluid HP 101** is a new solution to the requirement of die and PCD tools manufacturers of having a quality "*MultiPurpose*" fluid suitable to rough grinding, requiring high erosion speed coupled with lower wear and tear of the electrodes, as well as ensuring high finish levels and precision of dimensions, and to further guarantee adequate cleaning during wire EDM processing in form grinding and sharpening of PCD tools.

Such demanding performance is not only ensured by the **EDMfluid HP 101**, *but is also long lasting* thanks to the high stability of its chemical-physical characteristics, even after very long use, due to the unusual and *very short* distillation range and very low content of aromatic hydrocarbons.

Properties and benefits

When compared to traditional EDM fluids of a similar viscosity grade, and to low viscosity fluids, the **EDMfluid HP 101** can offer the following benefits:

- Not noxious according to "R65" description.
- Economy of fluid usage in the workplace.
- High and constant dielectric rigidity, together with the capacity to concentrate the sparks in the gap area. The fluid offers as well the possibility to work at high frequencies, ensuring:
 - higher erosion power, especially during rough grinding above 40 Amperes;
 - stability of performance even after very long usage;
 - Abatement of the risks of voltaic arcs arising from lac formation on the electrodes, which may cause holes if the electrode is made of graphite.
 - reduced wear and tear of the tool electrodes.
- Long lasting viscosity to ensure continuous circulation of the fluid in the interspace between electrode and workpiece, even during deep erosion with lower gaps. This allows for constant cleaning in the area of erosion, facilitating removal of swarfs.
- Excellent filterability, necessary to ensure better performance and a longer economic life of the filters.
- Drastic reduction of consumption through evaporation, up to 40÷50% less than that of conventional fluids with low viscosity grade and long distillation range, even at high working amperages.
- Completely clear and colourless. When properly filtered, the fluid guarantees excellent and constant visibility of the area even after long usage.
- More operative safety thanks to the higher flammability point according to its viscosity, to the almost negligible tendency to evaporation, and to its high surface tension value.
- Non toxic because of the high degree of refinement and purification of the bases used in the formulation of the **EDMfluid HP 101**. As the fluid's aromatic hydrocarbon content is practically negligible, it is also well tolerated by the skin.
- Chemical inactivity to metals and to the seals in the machine.
- Higher stability and resistance to oxidation, thanks to the bases and to the special additives used. These factors guarantee a longer economic life of the fluid loads and constant performance.
- Workplace free from noxious and unpleasant odour.



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Applications

The **EDMfluid-HP 101** is specially suited to modern die-sinking EDM machines, answering the accurate surface finish requirements of component manufacturers for the automobile and aviation industries, for the gas turbine industry, for manufacturing and sharpening of PKD tools, etc.

Specifications

The **EDMfluid HP 101** more than answers the requirements of the main EDM die-sinking machine manufacturers such as: Agiecharmilles; CDM, FANUC, MAKINO, MITSUBISHI, ONA, OPS Ingersoll; SODICK, Vollmer etc.

Storage and safety

The **EDMfluid HP 101** is not hazardous under normal conditions of use. Even though the fume emission is extremely low, it is good practice to instal suitable aspirators and fume extraction systems. Health and environmental safety information is available on request. Indoor storage is advisable. If outdoor storage is unavoidable, keep the drums horizontal to avoid infiltration of water, not compatible with the electroerosive process as even the smallest quantity of water would alter the fluid's dielectric rigidity.

If the containers are stored outdoors, ensure the environmental temperature is at least 5°C above the product's freezing point.

Characteristics

EDMfluid			HP 101
Characteristics	Test method	Unit of measure	Values
Appearance			Clear colourless
Density at 15°C	ASTM D4052	Kg/l.	0.766
Kinematic viscosity at 20°C.	ASTM D445	cSt	3
Flammability point (PM)	ASTM D93	°C	110
Pour point	ASTM D97	°C	+3
Initial distillation point	ASTM D86	°C	245
End distillation point	ASTM D86	°C	250
Colour	ASTM D156		+30
Aromatic hydrocarbon content	UV spettr.	%	Practically nil
Odour			Odourless

The above data are typical of production and do not represent product specifications.