



GREENoil 15, 20, 30, 46

Biodegradable special fluids, free from mineral oil,
for metal processing

Description

The **GREENoil** are a range of fluids formulated on a synthetic ester with a saturated molecular structure. The fluids, suitable for metal processing, are completely **biodegradable**. The range of fluids comprises four viscosity grades, suitable for diverse applications in skiving operations on metals.

The state-of-the-art bases employed in the formulation of these fluids are the new generation of *synthetic esters*, different from conventional market esters in that they are extremely resistant to oxidation. This is because they are synthetic esters with a saturated molecular structure.

The **GREENoil** range of fluids are not aggressive on seals (NBR), are highly lubricating, offer very high index of natural viscosity and offer wear and tear protection.

The nature of the bases used for the formulation of the **GREENoil** range ensures low tendency to volatility, a high flash point and excellent flushing properties.

Properties and benefits

Thanks to the saturated synthetic esters, and the special antioxidant additives, the **GREENoil** range offers the following benefits, when compared with conventional unsaturated esters:

- Higher chemical-physical stability, ensuring constant lubrication and flushing.
- High cleansing and cooling properties.
- High visibility in the processing area.
- Very low tendency to volatility.
- Very low tendency to emission of fumes and unpleasant odours.
- Totally compatible with seals (NBR).
- Excellent filterability, working with existing filter systems.
- High viscous stability thanks to its viscosity indexes.
- Completely biodegradable.

Compared to traditional hydrocarbon-based fluids, of equal viscosity, the **GREENoil** fluids also ensures the following benefits:

- Superior lubrication.
- Lower tendency to volatility.
- Higher viscous stability thanks to the higher viscosity index.
- Higher flash point.
- Better environmental and health safety levels.

Applications

GREENoil 15 is suitable for all grinding, including form grinding, and sharpening operations of carbide (hard metal/Widia) tools for automatic processing with skiving, of yellow alloys, steel or aluminium, and for grinding in steel small- and medium-ware.

GREENoil 20 is suitable for sharpening and manufacturing of HHS tools, gear grinding and shaving, as well as for many automatic processing of metal medium-ware.

GREENoil 30 and **46** are suitable for cogging gears by hob or fellow, depending on the moulds to be manufactured, and are also suitable as multipurpose oils, i.e. as *cutting, hydraulic and kinematic oils*.



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Storage, environmental and health safety

Store containers *indoor*. If outdoor storage is unavoidable, keep containers horizontal to avoid water infiltration and disappearing of writing on the containers themselves. Do not store at temperatures above 50°C or exposed to direct sun heat or frost.

When sharpening and grinding of hard metal tools, especially when using faired machine tools operating at medium-to-high pressures, it is advisable to fit machines with fire systems and aspiration of oily fumes. Information on health and hygiene issues is available on the safety data sheets.

Characteristics

GREENoil			15	20	30	46
Characteristics	Test method	Unit of measure	Values			
Saybolt colour	ASTM D 156		Light yellow	Light yellow	Light yellow	Light yellow
Density at 25°C	ASTM D 4052	kg/l	0.938	0.948	0.960	0.971
Iodine number	ASTM D 1959	g I ₂ /100 g	≤ 2	≤ 2	≤ 2	≤ 2
Kinematic viscosity at: 40°C	ASTM D 445	cSt	15	20	32	46
Viscosity index	ASTM D 2270		≥ 134	≥ 140	≥ 150	≥ 150
Acidity	ASTM D 803	mgKOH/g	max 1	max 2	max 1	max 1
Flammability temperature	ASTM D 92	°C	> 245	> 235	> 250	> 235
Pour Point	ASTM D 97	°C	max -40	max -35	max -30	max -39

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