

HAROLBIO 1

Biodegradable-based neat cutting lubricant



DESCRIPTION

It is a flowing neat coolant, free from mineral oil, formulated for chipping and grinding operations on ferrous and non-ferrous materials.

It is formulated with state-of-the-art raw materials, consisting in fully saturated biodegradable synthetic esters, with additives to enhance cutting performance, and anti-oxidants, anti-wear and metallic passivators.

It has a very high hygienic and environmental compatibility.

It features:

- no fumes and vapours during the process;
- high flashpoint for safe operations;
- excellent fluidity even at low temperatures and an exceptional wetting property, that ensures a quick and uniform spreading on the metallic surface;
- excellent greasing power, EP and lubricant release agent for quality finishes;
- excellent resistance to both oxidation and rust and passivation of non-ferrous alloys;

- good anti-wear power;
 - low temperature of the worked pieces;
 - well crushed and shredded scrap;
 - very reduced tendency to the formation of mists, in particular in the presence of high pressures of the oil jets or high spindle rotation speeds;
 - good biodegradability;
 - maximum tolerability on the part of operators.
- The product is free from chlorinated and / or sulfur compounds, and does not contain polycyclic aromatic hydrocarbons (PAH).

APPLICATIONS

All the operations, including heavy ones, with both traditional jet lubrication systems and minimal spray ones, on ferrous and non-ferrous materials, including titanium, when an oil with a high level of fluidity is required.

Also suitable for grinding operations on high performance steels, particularly stainless steel, hard metals, graphite; excellent with all types of grinding wheels including CBN ones.

TYPICAL PROPERTIES*

The product is easily biodegradable.

Property	Method	Results	Limits
Biodegradability, %	OECD 301 B	>60	>60

AVERAGE CHEMICAL AND PHYSICAL PROPERTIES*

Characteristic	Method	U.m.	Value
Density at 20°C	ASTM D 7042	Kg/ltr	0,858
Viscosity at 40°C	ASTM D 7042	cSt	8,46
Viscosity at 100°C	ASTM D 7042	cSt	2,64
Viscosity Index	ASTM D 2270	-	162
Brugger	DIN 51347	N/mm ²	23
Flash Point V.A.	ASTM D 92	°C	204
Fire point	ASTM D 92	°C	227
Turbid Point (neat oil)	P.O. 10.64	°C	-1

*This data do not constitute specification

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