

METAL WORK AF

Special High-Grade Electric Discharge Machining Oil

METAL WORK AF is a long-life electric discharge machining oil formulated from specially refined low-aromatic base oil and antioxidant additives. Electric discharge machining oils are generally required to have various characteristics to improve safety, workability, and handling. These include a high flash point, low viscosity, odor-free nature, low skin irritancy, and high oxidation stability. **METAL WORK AF** meets these requirements by keeping its aromatic content below 1% (FIA analysis), resulting in low odor and minimal skin irritation.

● SPECIAL FEATURES

1. Excellent Oxidation Stability for Long-Term Use

METAL WORK AF, formulated with low-aromatic base oil and antioxidant additives, offers superior oxidation and heat stability, allowing for long-term use.

2. Outstanding Machining Performance

METAL WORK AF has the ideal viscosity for precision microfabrication, high-speed rough machining, through-hole machining, bottom shape machining, and all other types of electric discharge machining.

3. High Safety

METAL WORK AF has a high flash point, making it less dangerous to handle and safer to use compared to kerosene.

● RESULTS OF SKD-11 MACHINING SPEED TEST

The machining speed of electric discharge machining oil was measured and converted to the amount of material machined per minute. The test results showed that **METAL WORK AF** demonstrated superior machining efficiency compared to our mineral oil-based machining oil.

METAL WORK AF	Mineral-Oil-Based Machining Oil
72mg/min	62 mg/min

Test Conditions

- Electrodes: 10mm X 10mm copper electrodes
- Ip: 10A
- τ on: 90 μ s
- τ off: 25 μ s
- Machining surface roughness: 35 μ m R_{max}.

● CONTAINERS

200-liter drum and 20-liter pail can

● TYPICAL PROPERTIES OF METAL WORK AF


Appearance		Transparent liquid
Color (Saybolt)		+30
Density (15°C)	g/cm ³	0.822
Kinematic viscosity (40°C)	mm ² /s	2.41
Flash point (PM)	°C	106
Pour point	°C	-50.0
Acid number	mgKOH/g	0.01
Distillation		
Initial Boiling Point	°C	240
End Point	°C	271

Note: The typical properties are subject to change without notice (May 2024)



Handling Precautions

▼ Follow these precautions when handling this product.

Composition :	Base Oil(s), Additives
Hazard pictograms:	
Signal word:	Danger
Hazard Statement:	Combustible liquid May be fatal if swallowed and enters airways Harmful to aquatic life Harmful to aquatic life with long lasting effects
Precautionary Statements:	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.• Avoid release to the environment.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER/doctor.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.• Do NOT induce vomiting.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.• Store in a well ventilated place.• Store locked up.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.