

CODEX

Lubricants

Industrial High Standards Quality Performance

EDM OIL

PREMIUM DIELECTRIC FLUID FOR ELECTRICAL DISCHARGE MACHINING

Multi-Purpose High-Performance Dielectric Oil

For Wire EDM • Sinker EDM • Small Hole EDM

Superior Spark Erosion Performance | Low Viscosity | High Flash Point

HIGH DIELECTRIC
STRENGTH

LOW VISCOSITY

HIGH FLASH POINT

SUPERIOR
FILTRATION

ODORLESS

BIODEGRADABLE

COUNTRY OF ORIGIN: SOUTH KOREA

ISO 9001:2015 | ISO 14001:2015 | RoHS Compliant

Precision Engineering for the Modern Machine Shop

PRODUCT OVERVIEW

CODEX EDM OIL — Premium Dielectric Fluid

WHAT IS CODEX EDM OIL?

CODEX EDM Oil is a premium-quality dielectric fluid specifically engineered for Electrical Discharge Machining (EDM) operations. Formulated with highly refined hydrocarbon base oils and advanced additive technology, it delivers exceptional performance in wire EDM, sinker (ram) EDM, and small hole drilling EDM applications.

The fluid serves as both a dielectric medium and a flushing agent, effectively managing spark erosion while efficiently removing machining debris. Its advanced formulation extends fluid life, reducing waste and consumption.

KEY FEATURES

- ✓ High Dielectric Strength (>30 kV)
- ✓ Low Viscosity for Superior Flushing
- ✓ High Flash Point (>100°C) for Safety
- ✓ Excellent Oxidation Stability
- ✓ Odorless & Low Evaporation Loss
- ✓ Biodegradable & Environmentally Friendly
- ✓ Superior Filtration Characteristics

FEATURE	CODEX EDM OIL	STANDARD EDM OIL
Dielectric Strength	≥ 30 kV	20-25 kV
Viscosity @ 40°C	1.5-2.5 cSt	2.5-4.0 cSt
Flash Point	>100°C	80-90°C
Oxidation Stability	Excellent	Moderate
Odor	Odorless	Strong Odor
Biodegradability	Yes	No
Color	Crystal Clear	Yellow/Amber
Country of Origin	South Korea	Various

TECHNICAL SPECIFICATIONS

CODEX EDM OIL — Technical Data Sheet

PROPERTY	SPECIFICATION	TEST METHOD
Appearance	Crystal Clear, Colorless	Visual
Density @ 15°C	0.780 - 0.820 kg/L	ASTM D1298
Kinematic Viscosity @ 40°C	1.5 - 2.5 cSt	ASTM D445
Kinematic Viscosity @ 100°C	0.8 - 1.2 cSt	ASTM D445
Viscosity Index	≥ 100	ASTM D2270
Flash Point (COC)	≥ 100°C	ASTM D92
Fire Point (COC)	≥ 110°C	ASTM D92
Pour Point	≤ -30°C	ASTM D97

Color (Saybolt) +30 (Water White) ASTM D156

PROPERTY	SPECIFICATION	TEST METHOD
Dielectric Strength (BDV)	≥ 30 kV	IEC 60156 / ASTM D877
Dielectric Constant @ 25°C	2.0 - 2.2	IEC 60247
Dissipation Factor @ 25°C	≤ 0.001	IEC 60247
Resistivity @ 25°C	≥ 1×10 ¹² Ω·cm	IEC 60247
Breakdown Voltage (2.5mm gap)	≥ 35 kV	IEC 60156

PROPERTY	SPECIFICATION	TEST METHOD
Copper Corrosion (3h, 100°C)	1a (Pass)	ASTM D130
Rust Prevention	Pass	ASTM D665A
Oxidation Stability (1000h)	TAN ≤ 0.3 mgKOH/g	ASTM D943
Evaporation Loss (Noack, 250°C)	≤ 15%	ASTM D5800
Foam Sequence I, II, III	0/0/0 mL	ASTM D892
Air Release @ 50°C	≤ 3 min	ASTM D3427

NOTE: All specifications are typical values and may vary slightly between batches.
For exact batch specifications, request Certificate of Analysis (COA).

APPLICATIONS & BENEFITS

Versatile Performance Across All EDM Operations

RECOMMENDED FOR ALL EDM PROCESSES

WIRE EDM

For CNC wire-cut machines cutting complex 2D and 3D profiles in conductive materials. Provides stable dielectric properties and efficient debris flushing for precision cuts.

SINKER EDM

For die-sinking and ram EDM operations creating cavities, molds, and dies. Delivers consistent spark gap insulation and rapid particle removal for superior surface finish.

SMALL HOLE EDM

For high-speed drilling of small diameter holes (0.1-3.0mm) in hard metals. Ensures clean breakthrough and minimal electrode wear for aerospace and medical applications.

INDUSTRIES SERVED

AEROSPACE

Turbine blades, engine components, landing gear parts, fuel system components

AUTOMOTIVE

Injection molds, die-casting dies, transmission components, gears

MEDICAL

Surgical instruments, implants, prosthetics, dental components

TOOL & DIE

Punch dies, mold cavities, progressive dies, extrusion dies

ELECTRONICS

Semiconductor components, connector molds, PCB tooling

ENERGY

Turbine components, nuclear parts, oil & gas drilling tools

KEY BENEFITS

- 30% Faster Cutting Speeds — Low viscosity enables rapid debris flushing
- 40% Extended Fluid Life — Superior oxidation resistance reduces consumption
- 50% Better Surface Finish — Stable dielectric properties ensure consistent sparks
- 60% Less Electrode Wear — Advanced formulation protects electrode integrity
- 70% Reduction in Smoke/Odor — Clean, odorless operation improves workplace safety
- 80% Better Filtration — Low residue formation extends filter life

PACKAGING & LOGISTICS

Flexible Solutions for Every Operation Scale

PACKAGING OPTIONS

PACKAGE	VOLUME	IDEAL FOR	DIMENSIONS
Jerry Can	20 Liters	Small workshops, trial runs, portable EDM	300×200×350 mm
Pail	200 Liters	Medium-scale operations, CNC EDM centers	Ø 580 × 880 mm
Drum	200 Liters	Standard industrial supply, high-volume shops	Ø 580 × 880 mm
IBC Tote	1,000 Liters	Large manufacturing facilities, integrated systems	1,300×1,000×1,160 mm
Bulk Tanker	5,000+ Liters	OEM supply chains, contract manufacturing	Custom
Flexitank	20,000 Liters	Sea freight bulk shipments, regional distributors	20ft Container

HANDLING & STORAGE

- Store in original sealed containers at 0°C to 40°C (32°F to 104°F)
- Keep away from direct sunlight, heat sources, and open flames
- Ensure adequate ventilation in storage areas
- Use clean, dedicated pumping equipment to prevent contamination
- Avoid mixing with other dielectric fluids or lubricants
- Shelf life: 3 years unopened; 1 year after opening (properly resealed)

LOGISTICS & SUPPLY CHAIN

PARAMETER	DETAIL
Country of Origin	South Korea
Manufacturing Standard	ISO 9001:2015 ISO 14001:2015
Export Port	Busan / Incheon, South Korea
Shipping Methods	Sea (FCL/LCL), Air, Road
Incoterms	EXW, FOB, CIF, DDP available
Lead Time	2-4 weeks standard; expedited available
Minimum Order	1 pallet (4 × 200L drums)

ABOUT CODEX LUBRICANTS

Precision Engineering from South Korea

CODEX Lubricants is a premier South Korean manufacturer of specialty industrial lubricants, serving the metalworking, aerospace, automotive, and precision manufacturing industries across Asia, Europe, and the Americas.

With state-of-the-art blending facilities, advanced R&D laboratories, and a commitment to uncompromising quality, CODEX delivers lubrication solutions that maximize productivity, minimize total cost of ownership, and ensure environmental responsibility.

CERTIFICATIONS & QUALITY STANDARDS

ISO 9001:2015	ISO 14001:2015	RoHS Compliant
REACH Registered	KOSHA Certified	AS9100D (Aerospace)

PRODUCT PORTFOLIO

- CODEX EDM Oil -- Dielectric Fluid for Electrical Discharge Machining
- CODEX EDM Oil Bio -- Biodegradable EDM Dielectric Fluid
- CODEX Metalworking Fluids -- Cutting & Grinding Oils
- CODEX Hydraulic Oils -- Industrial & Mobile Hydraulic Systems
- CODEX Compressor Oils -- Rotary & Reciprocating Compressors
- CODEX Heat Transfer Fluids -- Thermal & Quenching Applications

CONTACT CODEX LUBRICANTS

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REQUEST A FREE SAMPLE OR TECHNICAL CONSULTATION

Factory: Incheon / Busan, South Korea

CODEX EDM OIL

Precision Dielectric Fluid | Made in South Korea