

Hydraulic Oil

AMSOIL ISO 46 COMMERCIAL-GRADE HYDRAULIC OIL

Product Code: HCG46TP-EA



Product Description

AMSOIL ISO 46 Commercial-Grade Hydraulic Oil delivers reliable wear protection, corrosion resistance, and foam control for industrial and mobile hydraulic systems that consume high volumes of fluid and need a dependable, cost-effective oil.

Hydraulic systems in construction equipment, skid steers, log splitters, farm implements, and manufacturing machinery operate under constant pressure and temperature swings. Contamination, moisture ingress, and thermal stress break down lesser fluids, leading to sludge deposits in valves and solenoids, accelerated pump wear, and spongy, inefficient operation. Equipment with large-capacity hydraulic reservoirs compounds the cost of oil failure because you are replacing a lot of fluid when things go wrong.

STRONG WEAR PROTECTION FOR PUMPS AND MOTORS

Hydraulic pumps, especially vane and piston types, rely on a stable lubricant film to prevent metal-to-metal contact at high operating pressures. AMSOIL Commercial-Grade Hydraulic Oil is formulated with anti-wear additives that protect pumps, motors, valves, and other critical components. In ASTM D4172 Four-Ball Wear testing at 75 degC, 1200 rpm, and 40 kg load, the ISO 46 formulation produced a wear scar of just 0.56 mm. It also achieves an FZG A/8.3/90 load stage fail rating of 12, indicating strong performance under heavy gear-loading conditions. Less wear translates directly to longer pump life and fewer unscheduled shutdowns.

FIGHTS SLUDGE AND MAINTAINS SYSTEM CLEANLINESS

Sludge and varnish deposits are the quiet killers of hydraulic efficiency. They restrict flow through narrow passages in proportional valves and solenoids, causing erratic operation and sluggish response. This formulation resists oxidation to keep the oil clean over its service life, maintaining the operability of pumps, valves, solenoids, and other tight-tolerance components. Good filterability further supports system cleanliness by allowing the oil to pass through filtration elements without blocking them or bypassing contaminants.

RESISTS FOAM TO GUARD AGAINST CAVITATION

Air entrainment in hydraulic fluid creates compressibility that robs the system of power and responsiveness. Worse, foam-induced cavitation can cause serious damage to pump internals. AMSOIL Commercial-Grade ISO 46 Hydraulic Oil scored 0/0 across all three sequences of the ASTM D892 Foam Characteristics test. That means zero foam tendency and zero foam stability under each test condition. The result is firm, consistent hydraulic response and reduced risk of cavitation damage in gear, vane, and piston pumps.

CORROSION RESISTANCE FOR LONG COMPONENT LIFE

Moisture contamination is common in hydraulic systems, particularly mobile equipment exposed to weather and temperature cycling. AMSOIL Commercial-Grade Hydraulic Oil scores a 1A rating on the ASTM D130 Copper Strip Corrosion test at 100 degC, indicating minimal corrosive tendency toward yellow metals like bronze and brass found in pump bushings and valve bodies. It also demonstrates excellent water separation with ASTM D1401 Demulsibility results of 40-40-0 in 20 minutes for the ISO 46 grade, helping the system shed moisture quickly so it can be removed by filters or reservoir drains.

SPECIFICATIONS AND COMPATIBILITY

AMSOIL ISO 46 Commercial-Grade Hydraulic Oil is suitable for use in high- and low-pressure gear, vane, and piston hydraulic systems, including those with bronze metallurgy. It meets or is suitable for the following specifications:

ASTM D6158 (HM HP)ISO 11158 (HL HM)DIN ISO 51524 IIEaton E-FDGN-TB002-EEaton Brochure 03-401-2010Bosch Rexroth RD/E 90235Parker HF-0, HF-1, HF-2Fives Cincinnati P-70GM LS-2AIST (U.S. Steel) 126

This broad spec coverage makes it a straightforward replacement in excavators, backhoes, hydraulic presses, injection molding machines, log splitters, and other equipment calling for an ISO 46 anti-wear hydraulic oil.

SERVICE LIFE

Follow the equipment manufacturer's recommended drain intervals or oil analysis results to determine change intervals. Systems operating in clean, temperature-controlled environments will typically see longer fluid life than mobile equipment exposed to high heat, moisture, and contamination.

Technical Specifications

Property	ISO 46	Test Method
ISO Viscosity Grade	46	ASTM D2422
Kinematic Viscosity @ 100 degC, cSt	7.0	ASTM D445
Kinematic Viscosity @ 40 degC, cSt	46.4	ASTM D445
Viscosity Index	106	ASTM D2270
Flash Point, degC (degF) (COC)	246 (475)	ASTM D92
Pour Point, degC (degF)	-33 (-27)	ASTM D97
Four-Ball Wear Test, mm (75 degC, 1200 rpm, 40 kg, 1 hr)	0.56	ASTM D4172
Copper Strip Corrosion, 100 degC, 3 hr	1A	ASTM D130
Foam Characteristics, Seq. I, ml	0/0	ASTM D892
Foam Characteristics, Seq. II, ml	0/0	ASTM D892
Foam Characteristics, Seq. III, ml	0/0	ASTM D892
Demulsibility, min	40-40-0 (20)	ASTM D1401
FZG A/8.3/90, Load Stage Fail	12	--

Frequently Asked Questions

Q1: What equipment is AMSOIL ISO 46 Commercial-Grade Hydraulic Oil designed for?

AMSOIL ISO 46 Commercial-Grade Hydraulic Oil (HCG46TP-EA) is formulated to protect both industrial and mobile hydraulic applications. It is suitable for a wide range of equipment categories including heavy-duty on-road and off-road vehicles, agricultural machinery, ATVs, UTVs, snowmobiles, marine outboard and PWC applications, motorcycles, and auto/light truck hydraulic systems. It is designed for use in pumps, motors, valves, solenoids, and other hydraulic components.

Q2: How does AMSOIL ISO 46 Commercial-Grade Hydraulic Oil protect hydraulic pumps and motors from wear?

AMSOIL ISO 46 Commercial-Grade Hydraulic Oil provides strong wear protection for pumps, motors, valves, and other hydraulic components, helping them operate properly and last as designed. By resisting wear on critical internal surfaces, it helps reduce maintenance costs and downtime. The formulation also fights sludge buildup, which maintains the cleanliness and operability of pumps, valves, and solenoids over time.

Q3: What ISO viscosity grade and key specifications does AMSOIL Commercial-Grade Hydraulic Oil HCG46TP meet?

AMSOIL Commercial-Grade Hydraulic Oil carries an ISO 46 viscosity grade, which is one of the most widely used viscosity classifications for hydraulic systems. The product is formulated with oxidation resistance, corrosion inhibition, anti-foam properties, and good filterability for maximum fluid performance and life. Full technical specifications, including detailed test data and approvals, are available on the product's data bulletin.

Q4: How does AMSOIL ISO 46 Commercial-Grade Hydraulic Oil compare to conventional hydraulic fluids for sludge and corrosion control?

AMSOIL ISO 46 Commercial-Grade Hydraulic Oil is specifically formulated to fight sludge and resist corrosion, helping maintain the cleanliness and operability of pumps, valves, solenoids, and other components. It also resists oxidation, which is a primary cause of sludge formation and fluid breakdown in conventional hydraulic oils. These properties work together to promote long component life and reduce the frequency of fluid changes and system maintenance.

Q5: How does AMSOIL ISO 46 Commercial-Grade Hydraulic Oil help with filterability and fluid maintenance?

AMSOIL ISO 46 Commercial-Grade Hydraulic Oil provides good filterability, which helps maximize fluid performance and service life by allowing contaminants to be efficiently captured by the system's filtration. Its resistance to oxidation and sludge formation helps keep the hydraulic fluid clean throughout its service interval, reducing the need for premature fluid changes and supporting consistent hydraulic system operation.

Q6: Is AMSOIL ISO 46 Commercial-Grade Hydraulic Oil safe for hydraulic systems with sensitive valves and solenoids?

Yes. AMSOIL ISO 46 Commercial-Grade Hydraulic Oil is formulated to maintain the cleanliness and operability of pumps, valves, solenoids, and other hydraulic components. Its anti-foam properties help reduce sponginess and guard against cavitation that can damage pumps, while its sludge-fighting capability helps prevent deposits from interfering with the precise operation of valves and solenoids.

Available Product Codes

Product Code	Package Size	Unit of Measure
HCG46TP-EA	2.5 Gallon Jug	Each
HCG46TP-CA	Jug	Case of 2
HCG4655-EA	55 Gallon Drum	Each

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