

ORN SYN HYDRAULIC ISO 46 PN HYD046

Mineral-based hydraulic oil for industrial hydraulic and lubrication systems

Product Type	ISO Grade	Document Type	Application
Mineral hydraulic oil	ISO 46	TDS	Industrial hydraulics

Product Description

ORN SYN Hydraulic ISO 46 is a mineral-based hydraulic oil formulated for use in industrial hydraulic systems and associated lubrication applications. The formulation incorporates additive technology designed to assist with wear protection, oxidation resistance, corrosion prevention, and foam control during operation.

Applications

- Hydraulic equipment operating under elevated pressures, varying operating temperatures, and continuous-duty applications.
- Systems associated with Vickers, Gerotor, Gresen, HPM, Denison, Cessna, Hydreco, and Worthington where ISO VG 46 hydraulic oil is specified.
- Industrial hydraulic installations, workshop machinery and lubrication equipment, reduction gears, bearing systems, compressed air systems, and rotary screw compressors where approved by the equipment manufacturer.

Key Features

- Helps reduce wear in hydraulic pumps, valves, and system components.
- Supports resistance to oxidation and lubricant degradation.
- Assists in protecting metal components against corrosion.
- Helps control foam formation for consistent hydraulic system performance.
- Maintains viscosity characteristics suitable for industrial hydraulic service.

Environmental Benefits

- Oxidation-resistant performance helps maintain lubricant condition during normal service intervals and may contribute to extended oil life.
- Anti-wear protection can help reduce component wear, potentially supporting longer equipment service life and reducing maintenance-related waste.
- Foam-control characteristics assist in maintaining stable hydraulic operation and may help minimise unnecessary lubricant losses.
- Corrosion protection supports preservation of hydraulic system components operating in industrial environments.
- Stable viscosity characteristics assist in maintaining consistent lubrication performance across varying operating conditions.
- Used oil may be recovered, recycled, or disposed of through authorised waste-oil management programmes where suitable facilities and local regulations permit.

Environmental Note

Used lubricant should be collected, stored, and disposed of responsibly. Prevent discharge into drains, sewers, soil, surface water, or groundwater. Disposal should be carried out in accordance with applicable environmental regulations.

Performance Profile

Specifications

- AFNOR NF E 48-603 HM
- AGMA 9005-E02-RO
- DIN 51524 Part 2
- SAE MS1004
- BOSCH REXROTH RDE 90235
- EATON Brochure 03-401-2010
- EATON VICKERS I-286-S
- ZF TE-ML 07H
- AFNOR NF E 48-690
- AIST 126, US Steel
- ISO 20763
- SEB 181222
- CINCINNATI MACHINE P-70, ISO 46
- EATON E-FDGN-TB002-E
- EATON VICKERS M-2950-S
- AFNOR NF E 48-691
- AIST 127, US Steel
- JCMAS HK P041
- VICKERS I-286-S3
- DANIELI 0.000.001 Rev.15 Typ 10/11
- EATON M-2950-S, 35VQ25 pump test
- GM LS2 AW hydraulic oil

Typical Properties

Property	Method	Unit	Typical Value
Density at 15°C	ASTM D4052	g/ml	0.880
Kinematic viscosity at 40°C	ASTM D445	mm ² /s	46.6
Kinematic viscosity at 100°C	ASTM D445	mm ² /s	7.0
Viscosity index	ASTM D2270	-	107
Pour point	ASTM D6892	°C	-27
Flash point COC	ASTM D92	°C	220

Typical Values

Typical characteristics are average results and should not be treated as fixed sales specifications.

Safety Precautions

Important

Read and understand the latest Safety Data Sheet before handling or using the product. The information below is general handling guidance and does not replace the SDS.

Handling

- Read and understand the latest Safety Data Sheet before use.
- Avoid prolonged or repeated skin contact.
- Avoid contact with eyes.
- Do not ingest the product.
- Wash hands thoroughly after handling.
- Use only in equipment for which the viscosity grade and performance requirements are suitable.

Personal Protective Equipment

- Wear suitable chemical-resistant gloves when handling the product.
- Use safety glasses or goggles where splashing may occur.
- Wear appropriate protective clothing to minimise skin exposure.
- Ensure adequate ventilation where oil mist or vapour may be generated.

Storage

- Store in the original, tightly sealed container.
- Keep containers in a cool, dry, and well-ventilated location.
- Protect from direct sunlight, moisture, contamination, and excessive heat.
- Keep away from sparks, open flames, and other ignition sources.
- Prevent ingress of water, dirt, dust, or foreign materials.

Spill Response

- Stop leaks where it is safe to do so.
- Contain spills immediately to prevent environmental contamination.
- Absorb spilled product using sand, earth, or another suitable inert absorbent material.
- Dispose of recovered product and contaminated absorbent materials in accordance with local regulations.
- Clean affected surfaces thoroughly, as oil spills may create slip hazards.

First Aid Measures

- Skin contact: wash thoroughly with soap and water.
- Eye contact: rinse immediately with clean water for several minutes. Seek medical attention if irritation persists.
- Inhalation: move to fresh air if exposed to oil mist or vapour.
- Ingestion: do not induce vomiting. Obtain medical advice promptly.

General Note

Product characteristics may be revised as part of ongoing product development and technical improvement programmes. Users should verify product suitability for the intended application and consult the latest Safety Data Sheet for comprehensive information regarding hazards, exposure controls, storage, transport, first aid measures, and disposal procedures.