



## Introducing Sinopec

The Sinopec Group is the world's second largest oil refiner. Its products have been keeping the hydraulic systems of the Chinese economic miracle operating smoothly and efficiently for years. From fully synthetic engine oils to steam turbine lubricants, there can be no doubting Sinopec's technical expertise and credentials in every arena of lubricant manufacture. The Group is also a major investor in energy projects around the world.

The Sinopec Lubricant Co.Ltd, the world's fourth largest blender, is reaching new mobile and fixed installation markets with its premium lubrication products, including its range of hydraulic oils.



## Sinopec Lubricants



### Sinopec – a world player in hydraulic fluids

To spearhead the company's export drive to reach users of hydraulic systems around the world, a huge 'state of the art' blending facility in Singapore was announced in 2007. Sinopec uses the highest quality base stocks, or fully synthetic fluids where appropriate, to create the best lubricants. Along with Sinopec's hydraulic oils, its complete range of oils and greases fully meet the lubrication needs of fixed plant and mobile equipment operators.

### Sinopec – technical excellence in hydraulic oils

Sinopec is a leading international petrochemical group that recognises it is operating in a very sophisticated mechanical equipment market, and has the R&D facilities to match. With rigorous testing in the labs and practical real-world field trials, the hydraulic products are engineered to provide the best protection and the best value. With lubricants and grades suitable for all the main pump types (gear, piston and vane), these oils are ideal for severe operating conditions as well as environments with fire-risk or pollution-risk constraints. And, of course, many of Sinopec's lubrication products meet or exceed the relevant industry ISO and GB(PRC) standards, and the specifications of the leading OEMs.





# Sinopec Lubricants

## The Sinopec Hydraulic Oil range

Sinopec's long experience supporting industry has driven the development of premium lubricants for every sector. As hydraulic systems form an integral part of the machines and mechanical systems which control and enable our everyday life, it is natural for Sinopec to offer a comprehensive range of hydraulic oils.

The Sinopec range meets the mobile needs of automotive braking and transmission systems, the mechanical arms of off-road plant, and the steering of ocean-going ships. In static applications, there are hydraulic oils for machine tools, process lines, and the pumping stations for water, oil and gas.

Engineers need a range of hydraulic oils which can be relied on to apply power and lubricate the moving parts, while protecting the equipment and maintaining performance over extended periods. This means a premium quality lubricant which delivers outstanding anti-wear performance – and the better the fluid quality, the better its operational life.

This is what Sinopec's hydraulic oils deliver.

Our oils are designed to work with most common pump types (gear, piston or vane). Their formulations ensure optimum lubrication, while protecting seals and components. Reducing component wear and tear extends the useful operational life of equipment, saving maintenance and capital costs.

With pressure on your operating costs, increasing the period between fluid changes and service intervals can have a significant effect on your bottom line. By utilising the highest quality ingredients, Sinopec's hydraulic oils last longer by staying in grade and controlling water contamination, corrosion and deposits. This enables you to extend the drain-down intervals without compromising on performance or the longevity of the machinery in your care.

Choose the hydraulic oil for your machinery and equipment from the Sinopec range, and benefit from products designed to protect and enhance your productive output.

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# HYDRAULIC OIL

## L-HM Ashless Anti-wear Hydraulic Oil

Performance Spec:	DIN 51524 Pt 2 ISO 11158 (L-HM)
Viscosity Grade/Type:	32, 46, 68, 100

### Features and benefits

- ✔ The non-zinc, ashless antiwear additive is non-corrosive to silver and yellow metal (copper) alloys, so is fully compatible with hydraulic pumps containing these metals and prolongs pump life.
- ✔ Highly refined high quality base oils and ashless additives give outstanding antiwear properties, rust protection, low deposit formation, good demulsibility, oxidation resistance, good antifoam properties and fast air release properties, so protecting and extending the life of hydraulic pumps and systems.
- ✔ Good hydrolytic stability and filterability gives optimum product life and performance, and prevents filter blocking.
- ✔ High viscosity index gives good viscosity characteristics over a wide temperature range
- ✔ Wide selection of viscosity grades for any hydraulic system operating temperature.
- ✔ Fully compatible with common seal materials in hydraulic systems, extending seal life and preventing fluid leakage.

### Recommended applications

- ✔ Severe hydraulic applications, such as vane or piston pumps running under high-pressure conditions.
- ✔ High-precision hydraulic systems containing copper or silver components.
- ✔ Caution: avoid mixing Sinopec L-HM Ashless Anti-wear Hydraulic Oil L-HM grades with non-ashless antiwear hydraulic oils, as this may be detrimental to their performance.

### Certifications and approvals

DIN	51524 Pt 2
ISO	11158 (L-HM)
Cincinnati Lamb	P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)
Parker Denison	HF-0

SINOPEC

# HYDRAULIC OIL



## L-HV Low Temperature Hydraulic Oil

**Performance Spec:** DIN 51524 Pt 3  
GB 11118.1 (L-HV)  
ISO 6743/4 (L-HV)

**Viscosity Grade/Type:** ISO VG 15, 22, 32, 46, 68, 100

### Features and benefits

- High viscosity index combined with low pour point ensures excellent low-temperature fluidity and provides excellent low-temperature start up, protecting the hydraulic system from wear and extending life.
- A high viscosity index, High-quality base oils combined with multifunctional additive technology provide outstanding anti-wear properties, rust protection, low varnish and deposit formation, excellent demulsibility, oxidation resistance, good antifoam properties and fast air release properties, to protect and extend the life of hydraulic pumps and systems.
- Excellent shear stability properties ensure good oil film thickness is maintained in severe service conditions, protecting the components of the hydraulic system.
- Good hydrolytic stability and filterability, ensure optimum product life and performance, and prevent filter blocking.
- The wide selection of viscosity grades ensures that the optimum viscosity can be used for any hydraulic system operating temperature.
- Fully compatible with common seal materials usually found in hydraulic systems, to extend seal life and prevent fluid leakage.

### Recommended applications

- Hydraulic systems operating outdoors in regions of severe cold or where there is a wide variation in ambient temperature, such as in the marine, construction, mining and oil industries.
- Vane and gear pumps operating under high pressure and low temperatures, as recommended by pump manufacturers.
- Severe service hydraulic systems, employing axial and radial piston pumps, as recommended by pump manufacturers.

### Certifications and approvals

DIN	51524 Pt 3
GB	11118.1 (L-HV)
ISO	6743/4 (L-HV)
Cincinnati Lamb	P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)

### Meets performance requirements

Parker Denison	HF-0
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# HYDRAULIC OIL

## AE Hydraulic Oil

**Performance Spec:** DIN 51524 Pt 2  
ISO 11158 (L-HM)

**Viscosity Grade/Type:** ISO VG 32, 46, 68, 100

### Features and benefits

- Outstanding antiwear properties protect and extend the life of hydraulic pumps and systems, even in severe service conditions.
- Good demulsibility and antifoaming properties together with fast air release ensure optimum operation of the hydraulic system.
- Excellent oxidation and thermal stability prevents varnish and deposit formation, keeping the system clean, and ensures oil has a long service life.
- Excellent rust and corrosion prevention properties and a high level of oil cleanliness, prevent damage to sensitive system components.
- Good hydrolytic stability and filterability ensure optimum product life and performance, and prevent filter blocking.
- Available in four ISO viscosity grades to ensure that the optimum viscosity can be selected to meet the needs of hydraulic systems operating at different temperatures.
- Fully compatible with the common seal materials found in hydraulic systems, to extend seal life and prevent fluid leakage.
- Low pour point ensures excellent hydraulic performance, even at low operating temperatures.

### Recommended applications

- Hydraulic applications in a wide variety of industrial, marine and mobile equipment.
- Vane and gear pumps operating under high loads, as recommended by pump manufacturers.
- Severe service hydraulic systems, employing axial and radial piston pumps, as recommended by pump manufacturers.

### Meets performance requirements

Cincinnati Lamb	P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)
Eaton Vickers	M-2950-S (ISO 46)
Parker Denison	HF-0, HF-1, HF-2 (ISO 32, ISO 46, ISO 68)



# HYDRAULIC OIL

## L-HS Ultra Low Temperature Hydraulic Oil

**Performance Spec:** GB 11118.1-2011 (L-HS)

ISO 11158 (L-HV)

**Viscosity Grade/Type:** ISO VG 32, 46

### Features and benefits

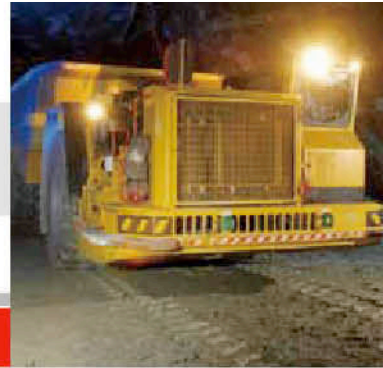
- Improved low temperature fluidity, viscosity stability under wide range of temperatures.
- Advanced oxidation and thermal stability, ensuring longer service life.
- High-quality base oils combined with multifunctional additive technology provide outstanding antiwear properties, rust protection, low varnish and deposit formation, good demulsibility, good antifoam performance and fast air release performance, to protect and extend the life of hydraulic pumps and systems.
- High level of cleanliness, preventing contamination from damaging system components.
- Good hydrolytic stability and filterability, ensure optimum product life and performance, and prevent filter blocking.
- Fully compatible with common seal materials usually found in hydraulic systems, to extend seal life and prevent fluid leakage.

### Recommended applications

- Hydraulic applications in a wide variety of industrial, marine and mobile equipment.
- Vane and gear pumps operating under high loads, as recommended by pump manufacturers.
- Outdoor machinery in severe cold region in winter.
- Severe service hydraulic systems, employing axial and radial piston pumps, as recommended by pump manufacturers.

### Certifications and approvals

GB	11118.1-2011 (L-HS)
ISO	11158 (L-HV)
Fives Cincinnati	P-68 (ISO 32), P-70 (ISO 46)
Eaton	Brochure 03-401-2010



# HYDRAULIC OIL

## L-HM Anti-wear Hydraulic Oil

<b>Performance Spec:</b>	<b>DIN 51524 Pt2</b>
	<b>GB 11118.1 (L-HM) Premium</b>
	<b>ISO 11158 (L-HM)</b>
<b>Viscosity Grade/Type:</b>	<b>ISO VG 32, 46, 68, 100, 150</b>

### Features and benefits

- Highly refined base oils combined with multifunctional additive technology provide outstanding anti-wear properties, rust protection, low varnish and deposit formation, good demulsibility, oxidation resistance, good antifoam properties and fast air release properties, to protect and extend the life of hydraulic pumps and systems.
- Good hydrolytic stability and filterability, ensure optimum product life and performance, and prevent filter blocking.
- The wide selection of viscosity grades ensures that the optimum viscosity can be used for any hydraulic system operating temperature.
- Fully compatible with common seal materials usually found in hydraulic systems, to extend seal life and prevent fluid leakage.

### Recommended applications

- Hydraulic applications in a wide variety of industrial, marine and mobile equipment.
- Vane and gear pumps operating under high loads, as recommended by pump manufacturers.
- Severe service hydraulic systems, employing axial and radial piston pumps, as recommended by pump manufacturers.

### Certifications and approvals

DIN	51524 Pt2
GB	11118.1 (L-HM) Premium
ISO	11158 (L-HM)
Cincinnati Lamb	P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)
Parker Denison	HF-0, HF-1, HF-2 (ISO 32, ISO 46, ISO 68)

### Meets performance requirements

Eaton Vickers	M-2950-S(ISO46)
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# HYDRAULIC OIL

## L-HG Slideway Hydraulic Oil

**Performance spec:** ISO 11158 (L-HG)

GB 11118.1 (L-HG)

**Viscosity grade/type:** ISO 32, 46, 68, 100

### Features and benefits

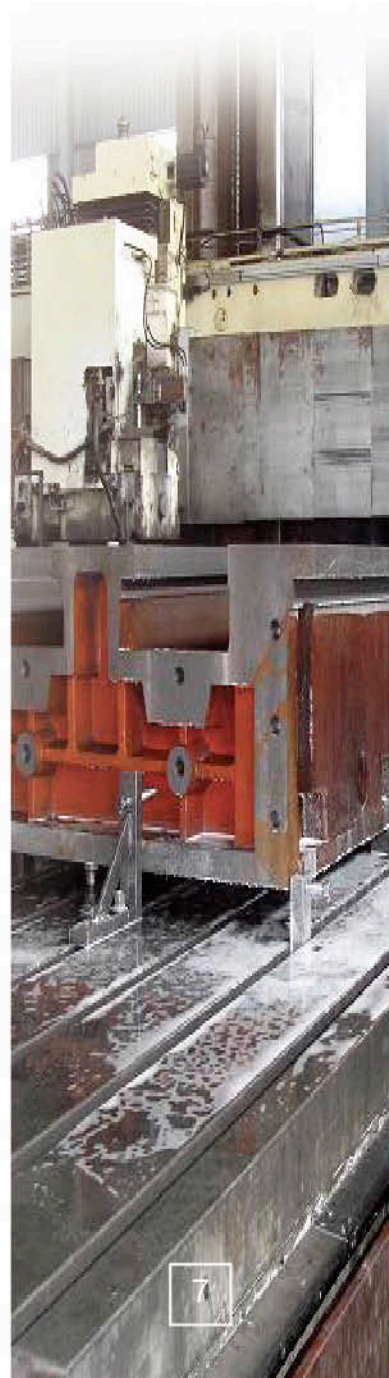
- Special frictional characteristics overcome stick-slip problems, eliminating 'chatter' of slow-moving slideways and tables, allowing more accurate positioning and improved finish of work pieces.
- Excellent antiwear performance protects slideways and hydraulic system components, extending their life.
- Good protection against rust and corrosion with water-based cutting fluids prolongs the service life of equipment.
- Good slideway adhesion provides resistance to fluid wash-off by metal-working fluids.
- Readily separates from water-based cutting fluids for easy removal.
- Fully compatible with common hydraulic systems seal materials, extending seal life and preventing leakage.

### Recommended applications

- Machine tool hydraulic systems, slideways, tables and feed mechanisms.
- Combined low- to medium-pressure hydraulic systems and high-precision machine tool slideways.

### Certifications and approvals

ISO 11158(L-HG)  
GB 11118.1 (L-HG)





## HFC 4631 Water-glycol Fire-resistant Hydraulic Fluid

<b>Performance spec:</b>	<b>ISO 12922 HFC</b>
	<b>GB/T (PRC) 21449</b>
<b>Viscosity grade/type:</b>	<b>SAE 40, 50</b>

### Features and benefits

- ✔ Outstanding fire-resistant properties provide safer working conditions.
- ✔ Excellent rust and corrosion prevention properties, in both liquid and vapour phases, protect the hydraulic system and avoid damage by rust debris.
- ✔ Excellent lubricity and antiwear properties protect components, extend pump and valve life, and reduce maintenance costs.
- ✔ Very low pour point (<-50°C) ensures good cold-start performance.
- ✔ Very high viscosity index provides excellent viscosity-temperature performance, for optimum protection over a wide operating temperature range.
- ✔ Excellent stability during storage reduces inventory costs.
- ✔ Long fluid service life (up to 10,000 hours) when equipment is properly maintained.
- ✔ Low toxicity and biodegrades readily - safer for the environment and the operator.

### Recommended applications

- ✔ Applications where an ISO 6743/4 HFC fire-resistant hydraulic fluid is required.
- ✔ Hydraulic systems in areas of high fire risk, with operating temperatures between -30°C and 60°C, and continuous operating pressures up to 20 MPa.
- ✔ Static and mobile equipment in areas of high fire risk e.g. coke furnace door openers, basic oxygen furnace hydraulics, electric welders, moulding and metal die-casting machinery, welding machines, furnace charging equipment, continuous metal casting equipment and glass drawing machinery.
- ✔ Caution: Sinopec HFC 4631 Water-glycol Fire-resistant Hydraulic Fluid is not compatible with conventional mineral-oil based hydraulic fluids or ISO 6743/4 HFDU-type fire-resistant hydraulic fluids.
- ✔ Note: Water-glycol fluids are not compatible with all seal materials or paints. Care must be taken to ensure the hydraulic system is designed or adapted for use with such fluids. Compatible seal materials include: nitrile, PTFE, neoprene® (chloroprene), silicone, Viton®, nylon, natural rubber and butyl rubber. Compatible paints include vinyl and epoxy resin-based products.

### Certifications and approvals

ISO	12922 HFC
GB/T (PRC)	21449



## Ester-based Fire-resistant Hydraulic Fluid 4632

### Performance spec

ISO 6743/4 HFDU

(synthetic fluids containing no water,  
other compositions)

ISO/FDIS 12922

### Viscosity grade/type:

ISO 32, 46, 68, 100

### Features and benefits

- Safe working environment as fire-resistant fluid has high flash point (270°C) and fire point (330°C).
- Excellent antiwear performance and lubricity properties, provided by the polyol ester fluid, protect the hydraulic components.
- Wide operating temperature range (-20°C to 90°C) and excellent thermal and oxidation stability, reduce sludge and deposits which cause valve sticking, giving longer drain intervals and component life.
- With high shear stability, fluid is not broken down in service and stays in grade.
- Outstanding viscosity-temperature performance due to very high viscosity index (VI > 180) compared to conventional mineral oil (VI ~ 100) and phosphate ester (VI < 0).
- Compatible with iron, steel, and most non-ferrous metals and their alloys.
- Suitable for hydraulic systems operating at a constant pressure of >40 MPa.
- Non-toxic, non-irritating, contains no hazardous ingredients and is biodegradable, so safe to handle and represents no danger to aquatic life - ideal for environments where accidental spillage or leakage is possible.
- Excellent storage stability gives long shelf life, comparable to mineral oil or polyglycol hydraulic fluids

### Recommended applications

- Applications where the use of a conventional mineral-oil base hydraulic fluid would represent a fire or environmental pollution
- Applications requiring a fire-resistant hydraulic fluid meeting ISO 6743/4 HFDU or ISO/FDIS 12922.

### Certifications and approvals

ISO	6743/4 HFDU (synthetic fluids containing no water, other compositions)
ISO/FDIS	12922



# The full Sinopec Lubricants Range

## Engine oils

Diesel engine oils	Fully synthetic Mineral
Petrol engine oils	Fully synthetic Synthetic technology Mineral
2-stroke diesel engine oil	
Super tractor oil universal	
Gas engine oil	LNG/CNG/LPG

## Gear oils

Automotive gear oils	Fully synthetic Mineral
Industrial gear oils	Heavy duty Open gear Fully synthetic PAG

## Transmission oils

Manual transmission oil	
ATF	ATF III Long drain
CVT fluid	
Final drive oil	
Limited slip gear oil	
TO-4 heavy duty fluid	

## Hydraulic oils

Ashless High pressure	
Low temperature High performance	
Standard Antiwear	
Slideway	
Water-glycol	
Ester-based synthetic	

## Greases

Automotive
High temperature
Lithium
Mining
Semi-fluid

## Turbine oils

Standard turbine oil
Long service
EP gas turbine oil
Anti-ammonia turbine oil

## Motorcycle oils

4-stroke oil	Fully synthetic
	Mineral
2-stroke oil	

## Marine oils

Trunk piston engine oil
Cross-head engine oil
TC-W3 outboard engine oil

## Brake fluids

Synthetic	Dot 4 Dot 5.1
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## Compressor oils

Standard compressor oil	Rotary Reciprocating
Synthetic compressor oil	

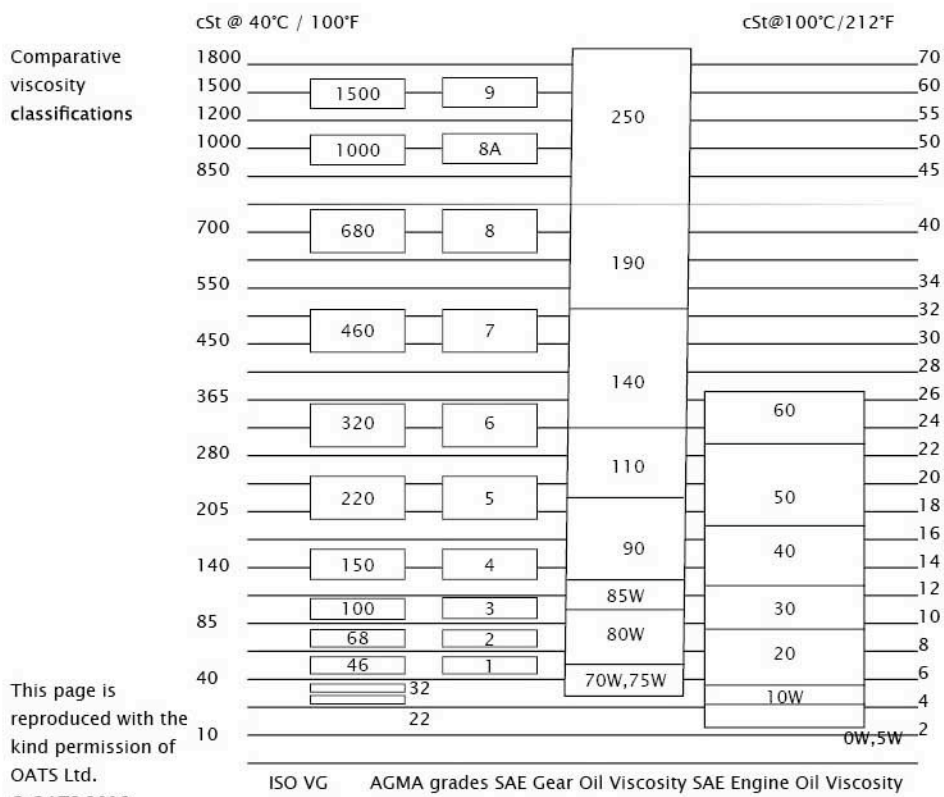
## Specialist products

Thermal conducting oil
Transformer oil
Rock drill oil

## Ancillary products

Coolant
Truckwash

# Viscosity classification



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