

S-OIL LUBRICANTS PRODUCT GUIDE



**S-OIL
LUBRICANTS
PRODUCT GUIDE**

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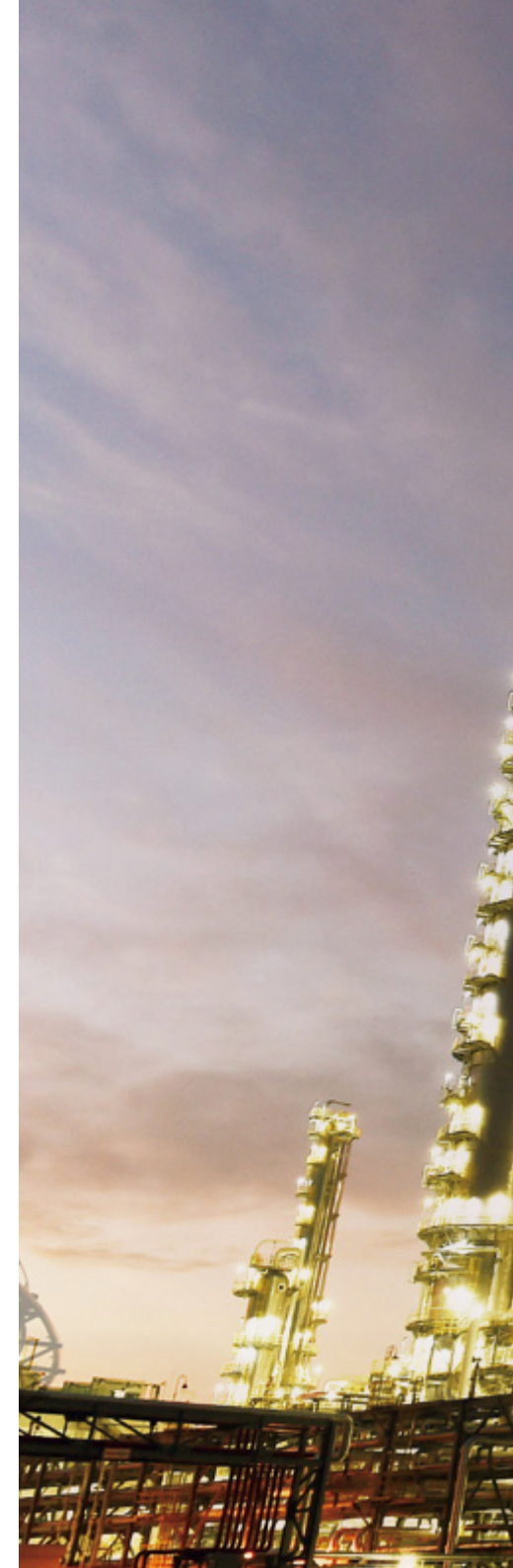
The Most Competitive, Creative and Clean Energy & Chemical Company

S-OIL Corporation was established in 1976 and cultivated management characteristics with a mobility to match the international generation, and a management strategy for its profit-base to grow as a competitive oil-refining company.

The company has facilities that produce 44.7 thousand barrels a day of lube base oils, 1,850 thousand tons per year petrochemical products, and crude oil refining facilities of 669,000 barrels a day in the Onsan Industrial Complex, South Korea.

The company is establishing itself as a company that leads in environment protection and consumer protection by producing and supplying high quality petroleum products. The company has successfully operated the world's largest Bunker-C Cracking Center since the middle of 1990s, which was 10 years ahead of other competing companies. Competitiveness and profitability innovatively increased through the Bunker-C Cracking Center.

The company exports more than 60% of products by concentrating on entering the overseas market. Now, the company has a leading role in changing to a high value export company from the local oil industry. While maintaining competition obtained from investment, the company promoted an expansion project of the Onsan Factory including 2nd Aromatic Complex to increase profit, and started commercial operation from April 2011. After 3 years of planning, design, and construction, the project was successfully completed, and the company started to possess the groundwork to take a leap as an excellent company with the best competition in the petro-chemistry area in the provision of products from Korea and Overseas.





**THE MOST COMPETITIVE
AND ADMIRABLE ENERGY & CHEMICAL
COMPANY IN ASIA PACIFIC**

669k B/D

Crude Oil Refinery
Capability

1,850k t

PX Production
Capability

44.7k B/D

Lube Base Oil
Production Capability

**S-OIL SEOUL MAPO BUILDING
(HEADQUARTER)**





The successful completion of RUC/ODC in 2018 strengthens the grand vision of S-OIL as the 'The Most Competitive, Creative, and Clean Energy & Chemical Company' along with expansion in the petro-chemistry area.

Saudi Aramco, the world's greatest petroleum company that led the growth of S-OIL as the largest shareholder from the early 1990s, became the single largest shareholder of S-OIL in 2015. Through this, S-OIL gave high reliability to all shareholders. Also, high accessibility was obtained, as the global resource of Saudi Aramco will become a new opportunity for the growth of S-OIL.

We are responding to various market demands by repeating continuous change and development.

Ever since its beginning of the finished lubricant business in 1989, S-OIL has been solidifying its position as a leading company in the market through relentless effort and innovation over the period.

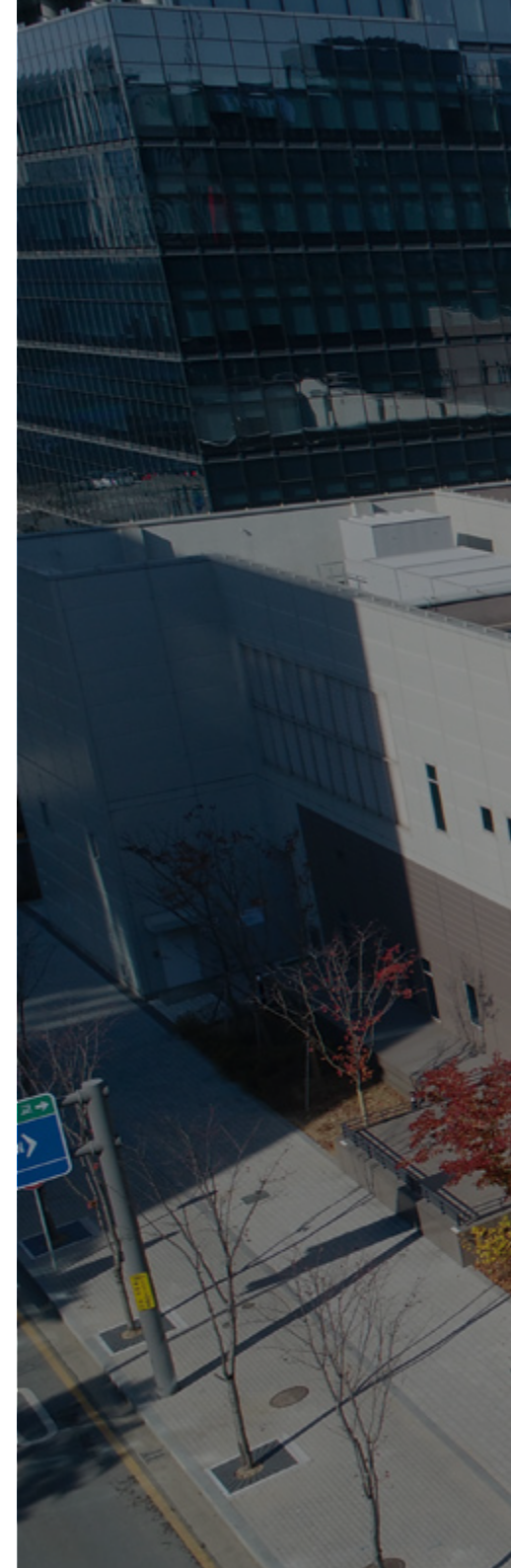
S-OIL has been diversifying its product and brand portfolio in line with change of market environment. By launching DRAGON in 1989, SSU in 2005, and S-OIL 7 in 2014, the company has been leading the market trends pursuing high quality premium grades.

Also, the company integrated its brands into S-OIL 7 in 2019 as a way of strengthening premium quality image to all the product lines leveraging the top-tier brand name. In industrial oil segment, we are expanding our line-up to meet the requirements of various industrial sub-segments, such as hydraulic oil, compressor oil, and gear oil to take advantage of our highly advanced lube base oil production technology.

TOP-TIER LUBRICANT BRAND S-OIL 7

"S-OIL 7", S-OIL's top-tier lubricant brand, blended with aramcoULTRA / PRIMA / DURA, has characterized its five major characteristics - Fuel economy, Environment-friendliness, Drivability, Engine durability, Engine internal cleanliness, which are required for engines, combined with two customer values : Forward (improvement of drivability) and Ascend (satisfactory driving experience).

After launched in 2014 as a full synthetic oil brand, S-OIL 7 brand was integrated as the family brand of all replacing S-OIL DRAGON and S-OIL 7 Eco from 2019. Now, S-OIL 7 established its position as representing brand for 'K-LUBE', the Korean lubricant, exported to more than 70 countries.





EV

S-OIL SEVEN



S-OIL EV fluid introduces a complete portfolio for various types of electrified drivetrains. S-OIL EV can help improve electric transmissions' efficiency, reliability, and performance.

S-OIL 7 EV FLUID

High-Performance 100% Synthetic Engine Oil
Meets The Latest Api Sp Grades
And Ilsac Gf-6a Standards
Eco-Friendly And Fuel-Saving Gasoline
Hybride Engine Oil



S-OIL 7 EV FLUID LINE-UP

S-OIL EV fluid introduces a complete portfolio for various types of electrified drive-trains. S-OIL EV can help improve electric transmissions' efficiency, reliability, and performance.

Category	Product	HEV	PHEV	BEV
Transmission Oil	S-OIL 7 EV e-Axle Oil			√
Transmission Oil	S-OIL 7 EV e-AT Oil	√	√	
Transmission Oil	S-OIL 7 EV e-DCT Oil	√	√	
Transmission Oil	S-OIL 7 EV PSD Oil	√	√	
Hybrid Engine Oil	S-OIL 7 EV hybrid	√	√	

TRANSMISSION OIL

S-OIL 7 EV e-Axle Oil is designed for BEV (Battery electric vehicles) and FCEV (Fuel Cell Electric Vehicles). S-OIL 7 EV e-Axle Oil is made by 100% synthetic base oil and balanced performance additive technology to perform superior electric performance, excellent gear protection.

HYBRID ENGINE OIL

S-OIL SEVEN EV Hybrid is made by 100% synthetic base oil, optimized for hybrid passenger cars (gasoline based only). Also suitable for latest engine fitted new technologies including turbocharger, DOHC, GDI and vehicles requiring performance specifications API SP and ILSAC GF-6.

PCMO

REBOOT YOUR ENGINE WITH ORIGINAL K-LUBE!

***DYNAMIC DRIVING
WITH TOP CLASS LUBRICANTS
FROM KOREA !***

"S-OIL 7" is mainly based on HVI, VHVI base oil directly produced from S-OIL and represent a high quality premium lubricants. S-OIL 7 maximized 5 main characteristics(Fuel Economy, Eco-Friendly, Drivability, Durability, Cleanness).

S-OIL 7 embodied the '7' elements of high quality lubricant by combining 2 customer values - 'Ascend (increase)', symbolizing satisfaction of the driving experience of consumers, and 'Forward (advance)', meaning the development of driving function of automobile.

S-OIL 7 GOLD #9 PAO C3

Previous Name : S-OIL 7 PAO

100% PAO Engine Oil For Passenger Cars
Equipped With Gasoline, Diesel
And LPG Engines



PRODUCT USE

- All vehicles with gasoline, automotive diesel and LPG engines
- Vehicles with DOHC, Turbocharger, Direct Injection Systems, Catalytic Converters
- Diesel vehicles fitted with after-treatment devices including EGR and DPF

PRODUCT PERFORMANCE

- PAO base oil provides excellent low temperature fluidity, oxidation stability and thermal stability
- This low SAPS (Sulfated Ash, Phosphorus and Sulfur) engine oil provides long life for exhaust after-treatment devices including DPF
- Resistance of breakdown in hot operation condition ensures complete engine protection in harsh condition
- Superior fluidity property in exceptional cold condition and easy start
- Excellent clean up properties and stability help to reduce and remove dirt and sludge buildup

PERFORMANCE LEVEL

ACEA C3, API SN/CF, MB 229.31/229.51, BMW Long Life-04, VW 502.00/505.00

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-40 (100% PAO)	79.7	14.0	182	-42	246
5W-30 (Fully Synthetic)	70.8	12.1	169	-39	236

S-OIL 7 GOLD #9 PAO A3/B4

Previous Name : S-OIL 7 PAO A3/B4

PAO Blended Fully Synthetic Engine Oil
For Passenger Cars Equipped With Gasoline,
Diesel And LPG Engines



PRODUCT USE

- All passenger car with gasoline, automotive diesel and LPG engines.
- Particularly passenger cars driving in modern star-stop traffic conditions
- Vehicles with DOHC, Turbocharger, Direct Injection Systems, Catalytic converters

PRODUCT PERFORMANCE

- PAO base oil provides excellent low temperature fluidity, oxidation stability and thermal stability
- Rapid oil flow in cold condition assures easy start and good drivability
- High viscosity index ensures adequate oil film strength at hot operating condition
- Excellent detergent system removes dirt and deposits in engine and assures long oil and engine life
- Resistance of breakdown in hot operation condition ensures complete protection in harsh condition

PERFORMANCE LEVEL

ACEA A3/B4, API SN, MB 229.3, BMW Long Life-01, VW 501.01/502.00 / 505.00, GM-LL-B-025

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)
	40°C	100°C		
0W-40	77.6	13.7	182	L-40.0

S-OIL 7 GOLD #9 C3

Previous Name : S-OIL 7 GOLD

Fully Synthetic Engine Oil For Passenger Cars
Equipped With Gasoline, Diesel And LPG Engines



PRODUCT USE

- Passenger cars with gasoline and diesel engine
- Passenger car with DOHC, Turbocharger, CRDI, Catalytic converters
- Diesel vehicles equipped with after-treatment devices, EGR, DPF, etc

PRODUCT PERFORMANCE

- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for after treatment devices including diesel particulate filter
- Rapid oil flow in cold condition assures easy start and good drivability
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN GOLD #9 C3's excellent clean up properties help to remove dirt and sludge from building up
- Improved fuel efficiency by minimization of friction

PERFORMANCE LEVEL

ACEA C3-16, API SN/CF, MB 229.51/229.52, BMW Long Life-04,
VW 502.00/505.00/505.01

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	68.0	11.9	172	-36	236
5W-40	79.2	13.6	176	-39	246

S-OIL 7 GOLD #9 C2

Fully Synthetic Engine Oil For Passenger Cars
Equipped With Gasoline, Diesel And LPG Engines



PRODUCT USE

- Passenger cars with gasoline and diesel engine
- Vehicles with DOHC, Turbocharger, CRDI, Catalytic Converters
- Diesel vehicles equipped with after-treatment devices including EGR, DPF

PRODUCT PERFORMANCE

- This low SAPS (Sulfated Ash, Phosphorus and Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter
- Rapid oil flow in cold condition assures easy start and good drivability
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN GOLD #9 C2's excellent clean up properties help to remove dirt and sludge from building up
- Improved fuel efficiency by minimization of friction

PERFORMANCE LEVEL

ACEA C2, API SN(0W-30), SP(5W-20/5W-30)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-30	57.8	10.8	180	-42	224
5W-20	52.9	9.0	151	-36	244

S-OIL 7 GOLD #9 C5/C6

Fully Synthetic Engine Oil For Passenger Cars
Equipped With Gasoline, Diesel And LPG Engines



PRODUCT USE

- Passenger cars with gasoline and diesel engine
- Vehicles with DOHC, Turbocharger, CRDI, Catalytic Converters
- Diesel vehicles equipped with after-treatment devices including EGR, DPF

PRODUCT PERFORMANCE

- This low SAPS (Sulfated Ash, Phosphorus and Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter
- Rapid oil flow in cold condition assures easy start and good drivability
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN GOLD #9 C5's excellent clean up properties help to remove dirt and sludge from building up
- Improved fuel efficiency by minimization of friction
- Provide Low speed pre-ignition and wear protection.

PERFORMANCE LEVEL

ACEA C5/C6, API SP

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-20	43.1	8.1	162	-40	236



S-OIL 7 GOLD #9 A5/B5

Previous Name : S-OIL 7 GOLD FE

Fully Synthetic, Fuel Economic Engine Oil
For Passenger Cars Equipped With Gasoline,
Diesel And LPG Engines



PRODUCT USE

- Passenger cars with gasoline and diesel engine where ACEA A5/B5, A1/B1, API SN technical level is required
- Suited to passenger cars with DOHC, Turbocharger, Direct injection system, Catalytic converters

PRODUCT PERFORMANCE

- Improved fuel efficiency by minimization of friction
- Rapid oil flow in cold condition assures easy start, good drivability and reduction of fuel consumption during start of your engine
- High viscosity index ensures adequate oil film strength at hot operating condition
- Excellent oxidation and thermal stability provides reduced sludge formation and ensures long oil life
- Excellent protection performance with optimized additive technology

PERFORMANCE LEVEL

ACEA A5/B5, A1/B1, API SL/CF, Ford 913C/D, RN0700

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)
	40°C	100°C		
5W-30	58.2	10	159	L-40

S-OIL 7 GOLD #9 A3/B4

Previous Name : S-OIL 7 RV

Fully Synthetic Engine Oil For Passenger Cars,
RV, Light Truck, SUV



PRODUCT USE

- Passenger cars, RV, light truck, SUV with gasoline and diesel engine
- Particularly passenger cars driving in modern start-stop traffic conditions

PRODUCT PERFORMANCE

- Full Synthetic base oil helps maintain oils initial conditions thanks to good stability and high viscosity index
- Rapid oil flow in cold condition assures easy start and good drivability
- High viscosity index ensures adequate oil film strength at hot operating condition
- Excellent detergent system removes dirt and deposits in engine and assures long oil and engine life

PERFORMANCE LEVEL

ACEA A3/B4, API SL (5W-30), API SN (0W-40, 5W-40, 10W-40), VW 502.00/505.00

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-40	76.3	13.3	178	-43	226
5W-30	71.2	12.0	166	-38	240
5W-40	91.7	15.1	174	-39	232
10W-40	86.4	13.1	151	-32	250

S-OIL 7 GOLD #9 ECO C3

Previous Name : S-OIL 7 RV C3

Fully Synthetic Engine Oil For Passenger Cars,
RV, Light Truck, SUV



PRODUCT USE

- Passenger cars, RV, light truck, SUV with gasoline and diesel engine
- Particularly vehicles driving in modern start-stop traffic conditions
- Vehicles with DOHC, Turbocharger, CRDI, Catalytic converters
- Diesel Vehicles equipped with after-treatment devices including EGR, DPF(Diesel Particulate Filter)

PRODUCT PERFORMANCE

- This medium SAPS(Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for after treatment devices including DPF.
- Rapid oil flow in cold condition assures easy start and good drivability
- High viscosity index ensures adequate oil film strength at hot operating condition
- Excellent detergent system removes dirt and deposits in engine and assures long oil and engine life

PERFORMANCE LEVEL

ACEA C3, API SP

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	72.9	11.8	158	-38	234

S-OIL 7 RED #9 SP

Fully Synthetic For Gasoline Engine



PRODUCT USE

- All passenger cars that run on gasoline
- Vehicles equipped with DOHC, Turbocharger, GDI are suggested to apply API SP, ILSAC GF-6 engine oil
- Low viscosity lubricants are suitable for hybrid car

PRODUCT PERFORMANCE

- This engine oil provides premium performance thanks to very stable and clean base oil properties
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN RED #9 SP is formulated with latest cleaning agents that help to remove dirt and deposits actively
- Eco-friendly engine oil with improved fuel efficiency caused by minimization of friction in moving parts

PERFORMANCE LEVEL

API SP / ILSAC GF-6B (0W-16),

API SP / ILSAC GF-6A (0W-20, 0W-30, 5W-20, 5W-30, 10W-30),

API SP (5W-40)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-16	37.8	7.3	162	-40	228
0W-20	44.9	8.5	170	-40	226
0W-30	55.9	10.3	175	-40	226
5W-20	49.7	8.7	155	-37	242
5W-30	64.8	11.1	164	-37	234
5W-40	87.2	14.1	167	-37	234
10W-30	69.6	11.0	149	-31	256



S-OIL 7 RED #9 SN PLUS

Previous Name : S-OIL 7 RED1 SN PLUS

Fully Synthetic Gasoline Engine Oil
Requiring Performance Specifications
API SN PLUS and ILSAC GF-5



PRODUCT USE

- All passenger cars that run on gasoline
- Vehicles equipped with DOHC, Turbocharger, GDI are suggested to apply API SN PLUS, ILSAC GF-5 engine oil

PRODUCT PERFORMANCE

- This engine oil provides premium performance thanks to very stable and clean base oil properties
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN RED #9 SN PLUS is formulated with latest cleaning agents that help to remove dirt and deposits actively
- Eco-friendly engine oil with improved fuel efficiency caused by minimization of friction in moving parts

PERFORMANCE LEVEL

API SN PLUS/CF, ILSAC GF-5

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-16	37.8	7.3	162	-40	228
0W-20	44.9	8.5	170	-40	226
5W-30	64.8	11.1	164	-37	234
10W-30	69.6	11.0	149	-31	256



S-OIL 7 RED #9 SN

Previous Name : S-OIL 7 RED1

Fully Synthetic Engine Oil For Passenger Cars
That Run On Gasoline



PRODUCT USE

- All passenger cars that run on gasoline
- Passenger cars equipped with DOHC, Turbocharger, GDI are supposed to apply API SN, ILSAC GF-5 engine oil.

PRODUCT PERFORMANCE

- This engine oil provides premium performance thanks to very stable and clean base oil properties
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN RED #9 SN is formulated with latest cleaning agents that help to remove dirt and deposits actively
- Eco-friendly engine oil with improved fuel efficiency caused by minimization of friction in moving parts

PERFORMANCE LEVEL

API SN/CF, ILSAC GF-5(0W-20/30, 5W-20/30, 10W-30)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
0W-20	44.9	8.5	170	-40	226
0W-30	55.9	10.3	175	-40	226
5W-20	49.7	8.7	155	-37	242
5W-30	64.8	11.1	164	-37	234
5W-40	87.2	14.1	167	-37	234
5W-50	115.2	18.2	176	-39	230
10W-30	69.6	11.0	149	-31	256
10W-40	102.9	15.4	159	-36	248



S-OIL 7 RED #9 LPG

Previous Name : S-OIL 7 LPG

Fully Synthetic LPG & Gasoline Engine Oil



PRODUCT USE

- All passenger cars that run on LPG and gasoline
- Especially suitable for Passenger cars driving in modern start-stop traffic conditions
- Vehicles equipped with DOHC, Turbocharger, GDI are suggested to apply API SP, ILSAC GF-6 engine oil

PRODUCT PERFORMANCE

- This engine oil provides premium performance thanks to very stable and clean base oil properties
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN RED #9 LPG is formulated with latest cleaning agents that help to remove dirt and deposits actively
- Eco-friendly engine oil with Improved fuel efficiency caused by minimization of friction in moving parts

PERFORMANCE LEVEL

API SP, ILSAC GF-6 (10W-30) / API SN (10W-40)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	64.7	10.2	144	-25	246
10W-40	90.4	13.6	152	-33	246



S-OIL 7 RED #7 SP

Synthetic For Gasoline Engine



PRODUCT USE

- All passenger cars that run on gasoline
- Vehicles equipped with DOHC, Turbocharger, GDI are suggested to apply API SP, ILSAC GF-6 engine oil

PRODUCT PERFORMANCE

- This engine oil provides premium performance thanks to very stable and clean base oil properties
- High viscosity index ensures adequate oil film strength at hot operating condition
- S-OIL SEVEN RED #7 SP is formulated with latest cleaning agents that help to remove dirt and deposits actively
- Eco-friendly engine oil with improved fuel efficiency caused by minimization of friction in moving parts

PERFORMANCE LEVEL

API SP / ILSAC GF-6A

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-20	51.9	8.8	149	-39	224
5W-30	61.2	10.2	155	-39	222
10W-30	71.2	11.1	147	-36	226



S-OIL 7 RED #7 SN

Previous Name : S-OIL dragon SN

Synthetic Gasoline And LPG/CNG/LNG Engine Oil
Making It Fun To Drive



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi-valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particular in severe conditions
- For all driving styles, vigorous speeds in all seasons
- Suitable to use in LPG/CNG/LNG engine (10W-30, 20W-50)

PRODUCT PERFORMANCE

- Meets API SN and ILSAC GF-5 requirements, the guarantee of high and constant quality for lubricants
- Ensures easy cold start due to its extreme fluidity at low temperature and maintains a very resistant oil film even at extremely high operating temperature
- Protects mechanical parts and fully preserves the engine power, thus contributing to its youth and strength
- Low viscosity grades provide reduced friction and therefore creates fuel savings, which decrease CO2 emissions

PERFORMANCE LEVEL

API SN/CF, API SN/RC (5W-20/30, 10W-30), ILSAC GF-5 (5W-20/30, 10W-30)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-20	48.5	8.4	149	-35	241
5W-30	65.3	11	162	-40	221
5W-40	90.5	14.9	172	-35	229
10W-30	60.2	10.1	152	-34	245
10W-40	96.4	14.4	149	-33	245
15W-40	108.5	14.2	134	-31	231
20W-50	182	21.4	140	-31	233



S-OIL 7 RED #7 SL

Previous Name : S-OIL dragon SL

Synthetic Oil For Gasoline Engine



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particularly in severe conditions
- For all driving styles, vigorous speeds in all seasons

PRODUCT PERFORMANCE

- Meets API SL and ILSAC GF-3 requirements, guarantee of an high and constant quality for lubricants
- Ensures easy cold start due to its extreme fluidity at low temperature and maintains a very resistant oil film even at extremely high operating temperature
- Protects mechanical parts and fully preserves the engine power, thus contributing to its youth and strength

PERFORMANCE LEVEL

API SL/CF, ILSAC GF-3

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	62.5	10.5	157	-39	226



S-OIL 7 RED #7 SJ

Previous Name : S-OIL dragon SJ

Synthetic Oil For Gasoline Engine



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particular in severe conditions
- For all driving styles, vigorous speeds in all seasons

PRODUCT PERFORMANCE

- Meets API SJ and ILSAC GF-2 requirements, guarantee of an high and constant quality for lubricants
- Ensures easy cold start due to its extreme fluidity at low temperature and maintains a very resistant oil film even at extremely high operating temperature
- Gives the engine an excellent wear protection, develops performance and power
- Keeps the engine's most sensitive parts clean thanks to its advanced detergent and dispersive additives

PERFORMANCE LEVEL

API SJ, ILSAC GF-2

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	64.6	10.7	157	-39	226



S-OIL 7 RED #5 SM

Previous Name : S-OIL dragon SM

High-Performance Gasoline Engine Oil



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi-valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particularly in severe conditions
- For all driving styles, vigorous speeds in all seasons

PRODUCT PERFORMANCE

- Meets API SM requirements, guarantee of an high and constant quality for lubricants
- Ensures easy cold start due to its extreme fluidity at low temperature and maintains a very resistant oil film even at extremely high operating temperature
- Protects mechanical parts and fully preserves the engine power, thus contributing to its youth and strength

PERFORMANCE LEVEL

API SM/CF

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-40	103.8	15.3	155	-39	224



S-OIL 7 RED #5 SL

Previous Name : S-OIL dragon SL

High-Performance Gasoline Engine Oil



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi-valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particularly in severe conditions
- For all driving styles, vigorous speeds in all seasons

PRODUCT PERFORMANCE

- Meets API SL requirements, guarantee of an high and constant quality for lubricants
- Ensures easy cold start due to its extreme fluidity at low temperature and maintains a very resistant oil film even at extremely high operating temperature
- Protects mechanical parts and fully preserves the engine power, thus contributing to its youth and strength

PERFORMANCE LEVEL

API SL/CF

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-40	103.7	15.3	155	-39	224
20W-50	177.7	19.8	129	-26	238



S-OIL 7 RED #5 SJ

Previous Name : S-OIL dragon SJ

High-Performance Gasoline Engine Oil



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi-valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particularly in severe conditions
- For all driving styles, vigorous speeds in all seasons

PRODUCT PERFORMANCE

- Meets API SJ and ILSAC GF-2 (5W-30 and 10W-30) requirements, guarantee of an high and constant quality for lubricants
- Ensures easy cold start due to its extreme fluidity at low temperature and maintains a very resistant oil film even at extremely high operating temperature
- Gives the engine an excellent wear protection, develops performance and power
- Keeps the engine's most sensitive parts clean thanks to its advanced detergent and dispersive additives

PERFORMANCE LEVEL

API SJ, ILSAC GF-2 (10W-30)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	64.4	10.6	152	-37	223
10W-30	76.9	11.4	141	-39	222
10W-40	101.3	14.8	152	-36	226



S-OIL 7 RED #5 SG

Previous Name : S-OIL dragon SG

High-Performance Gasoline Engine Oil



PRODUCT USE

- All gasoline engines, especially for most recent technology engines (multi-valve, turbocharged, with/without catalytic converter) supercharged or not, in cars
- Suitable for all journeys (in town, on highways) and particularly in severe conditions
- For all driving styles, vigorous speeds in all seasons

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Exceptional detergency level and soot dispersion properties
- High performance level insures safer and longer drains intervals

PERFORMANCE LEVEL

API SJ/SG/CF

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	108.9	14.5	136	-36	236

REBOOT YOUR ENGINE WITH ORIGINAL K-LUBE!

***DYNAMIC DRIVING
WITH TOP CLASS
LUBRICANTS
FROM KOREA!***

"S-OIL 7" is mainly based on HVI, VHVI base oil directly produced from S-OIL and represent a high quality premium lubricants. S-OIL 7 maximized 5 main characteristics(Fuel Economy, Eco-Friendly, Drivability, Durability, Cleaness).

S-OIL 7 embodied the '7' elements of high quality lubricant by combining 2 customer values - 'Ascend (increase)', symbolizing satisfaction of the driving experience of consumers, and 'Forward (advance)', meaning the development of driving function of automobile.





S-OIL 7 BLACK #9 LS

Previous Name : S-OIL 7 BLACK LS

Fully Synthetic Engine Oil
For All Top-Tier Heavy-Duty Engines



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- Suitable for most of OEMs including Benz, Volvo, Cummins for EURO IV, V and VI engines
- Light Trucks, RVs, SUVs, Heavy Trucks, Buses with diesel/CNG/LNG engines

PRODUCT PERFORMANCE

- Full Synthetic base oil enhances the engine protection and engine oil life thanks to good stability and high viscosity index
- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter
- Exceptional anti-wear performance allows all parts of engine keep initial condition and helps the operator's maintenance cost saving
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions

PERFORMANCE LEVEL

<5W-30>

ACEA E6/E8/E9/E11, API CK-4, JASO DH-2, MB 228.51, Volvo VDS-4.5, Renault RLD-3, Detroit Diesel DDC93K222, Cummins CES 20086, Mack EO-S-4.5, MAN M3677, Scania LDF-4

<10W-40>

ACEA E4/E6/E7/E9, API CJ-4, JASO DH-2, MB 228.51, Volvo VDS-4, Renault RLD-3, Detroit Diesel DDC93K218, Cummins CES 20081, MTU Type 2.1/3.1, Mack EO-O-PP, Caterpillar ECF-3, MAN M3477/3575/3271-1, DQC-IV-10 LA, Scania Low Ash, Voith Class B

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	73.2	12.2	164	-36	230
10W-40	102.8	15.5	160	-40	238



S-OIL 7 BLUE #9 CK-4

Fully Synthetic Engine Oil
For All Heavy-Duty Engines



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- Suitable for most OEMs including Benz, Volvo, Cummins for Euro IV, V, VI engines
- Light trucks, RVs, SUVs, Heavy trucks, Buses with diesel engines

PRODUCT PERFORMANCE

- Full synthetic base oil enhances the engine protection and engine oil life thanks to high stability and cleanliness
- This low SAPS (Sulfated Ash, Phosphorus and Sulfur) engine oil provides long life for exhaust after-treatment devices including diesel particulate filter
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions
- In cold condition, good fluidity provides easy start and prevents wear damage in initial stage

PERFORMANCE LEVEL

API CK-4/CJ-4, Volvo VDS-4.5, Cummins CES 20086, ACEA E9-16, Mack EO-S-4.5, Caterpillar ECF-3, MB 228.31, Renault RLD-4, Deutz DQC III-10 LA, Category 2.1 Detroit Diesel 93K222, Ford WSS-M2C171-F1

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	78.1	12	148	-34	244
15W-40	103.4	15.1	153	-34	247



S-OIL 7 BLUE #7 CK-4

Previous Name : S-OIL 7 BLUE1 CK

Synthetic Heavy-Duty Diesel Engine Oil
For The Newest API Standards



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- Suitable for most OEMs including Benz, Volvo, Cummins for Euro IV, V, VI engines
- Light trucks, RVs, SUVs, Heavy trucks, Buses with diesel engines

PRODUCT PERFORMANCE

- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter
- Exceptional anti-wear performance provides all parts of engine keep initial condition and helps the operator's maintenance cost saving
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions

PERFORMANCE LEVEL

API CK-4/CJ-4, Volvo VDS-4.5, Cummins CES 20086, ACEA E9-16, Mack EO-S-4.5, Caterpillar ECF-3, MB 228.31, Renault RLD-4, Deutz DQC III-10 LA, Category 2.1, Detroit Diesel 93K222, Ford WSS-M2C171-F1

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	79.8	11.8	142	L-40	234



S-OIL 7 BLUE #5 CK-4

Previous Name : S-OIL 7 BLUE1 CK

Premium Heavy-Duty Diesel Engine Oil
For The Newest API Standards



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- Suitable for most OEMs including Benz, Volvo, Cummins for Euro IV, V, VI engines
- Light trucks, RVs, SUVs, Heavy Trucks, Buses with diesel engines

PRODUCT PERFORMANCE

- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter
- Exceptional anti-wear performance provides all parts of engine keep initial condition and helps the operator's maintenance cost saving
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions

PERFORMANCE LEVEL

API CK-4/CJ-4, Volvo VDS-4.5, Cummins CES 20086, ACEA E9-16, Mack EO-S-4.5, Caterpillar ECF-3, MB 228.31, Renault RLD-4, Deutz DQC III-10 LA, Category 2.1, Detroit DFS93K222, Ford WSS-M2C171-F1

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	112.4	14.5	132	L-40	236



S-OIL 7 BLUE #9 CJ-4/SL

Previous Name : S-OIL 7 BLUE1 CJ

Fully Synthetic Engine Oil
For All Heavy-Duty Engines



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- Light Trucks, RVs, SUVs, Heavy Trucks, Buses with diesel engines
- Especially diesel vehicles with European engine under high pressure and temperature

PRODUCT PERFORMANCE

- 100% Synthetic base oil enhances the engine protection and engine oil life thanks to high stability and cleanliness
- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions
- In cold condition, good fluidity provides easy start and prevents wear damage in initial stage

PERFORMANCE LEVEL

ACEA E9/E7, Cummins CES 20081, API CJ-4/SM, MAN M3575, MB 228.31, MACK EO-O PP, Renault RLD-3, Caterpillar ECF-3

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-40	95	14.3	154	-35	228
15W-40	101.7	15	154	-32	240



S-OIL 7 BLUE #7 CJ-4/SL

Previous Name : S-OIL dragon CJ-4/SL

Synthetic Heavy-Duty Diesel Engine Oil
Fitted With After Treatment Devices DPF, EGR
And SCR



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- Light Trucks, RVs, SUVs, Heavy Trucks, Buses with diesel engines
- Especially diesel vehicles with European engine under high pressure and temperature
- Particularly suited for EURO IV, V, VI to older generation engines fitted with after treatment devices including DPF, EGR and SCR

PRODUCT PERFORMANCE

- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil provides long life for exhaust after treatment devices including diesel particulate filter.
- Synthetic technology enhances the engine protection and engine oil life thanks to high stability and cleanliness
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions
- In cold condition, good fluidity provides easy start and prevents wear damage in initial stage

PERFORMANCE LEVEL

API CJ-4/SL

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-40	104.4	15.4	156	L-40	224
15W-40	108.2	14.8	142	L-40	232



S-OIL 7 BLUE #9 CI-4/SL

Previous Name : S-OIL 7 BLUE CI

Fully Synthetic Engine Oil For All Heavy-Duty Engines



PRODUCT USE

- All turbocharged or normally aspirated diesel engines of vehicles operating in the most severe conditions
- RVs, SUVs, Light Truck, Heavy Truck and Buses fitted with diesel engine
- Particularly suited for low emission engines fitted with after-treatment devices including EGR

PRODUCT PERFORMANCE

- Full synthetic base oil enhances the engine protection and engine oil life thanks to high stability and cleanliness
- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions
- In cold condition, good fluidity provides easy start and prevents wear damage in initial stage

PERFORMANCE LEVEL

ACEA E7, Renault Truck RLD/RLD-2, API CI-4/SL,CH-4/CG-4, MAN M3275, Mercedes-Benz MB 228.3, Cummins CES 20071/72/76/77/78, Volvo VDS-3, Caterpillar ECF-2/ECF-1-a, Mack EO-M Plus

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-40	101.3	15.2	158	-38	226
15W-40	101.1	14.8	153	-37	238



S-OIL 7 BLUE #7 CI-4/SL

Previous Name : S-OIL dragon CI-4/SL

Synthetic Heavy-Duty Diesel Engine Oil
Fitted With After Treatment Devices EGR And SCR



PRODUCT USE

- Suitable to all turbocharged or normally aspirated Diesel engines of civil works machines, trucks, fishing boats, locomotives, buses.
- Light Trucks, RVs, SUVs, Heavy Trucks, Buses with diesel engines
- Particularly suited for latest engines fitted with after treatment devices including EGR and SCR.

PRODUCT PERFORMANCE

- Excellent detergent system helps keep pistons and other engine parts clean for long engine life.
- Good thermal breakdown resistance ensures engine protection under modern engine's severe conditions.
- This low SAPS (Sulfated Ash, Phosphorus, Sulfur) engine oil can reduce the blockage of filter for exhaust gas treatment.
- In cold conditions, Good fluidity provides easy start and prevents wear damage in initial stage.
- Excellent oxidation resistance, anti-wear and anti-corrosion properties protect your engine during operation.

PERFORMANCE LEVEL

ACEA E7, Volvo VDS-3, Cummins CES 20076/77/78, API CI-4/SL, Mack EO-M Plus, Caterpillar ECF-2/ECF-1-a, MB 228.3/229.1, Renault Truck RLD/RLD-2, DEUTZ DQC III-10, MTU 2, MAN M3275, Detroit Diesel 93K215/DHD-1

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	82.9	12.5	147	-37	222
10W-40	106.8	15.6	155	L-40	230
15W-40	107.2	14.5	139	-29	238
20W-50	158.6	19.1	137	-38	246



S-OIL 7 BLUE #5 CI-4/SL

Previous Name : S-OIL dragon CI-4/SL

High-Quality Heavy Duty Diesel Engine Oil



PRODUCT USE

- Suitable to all turbocharged or normally aspirated diesel engines of civil works machines, trucks, fishing boats, locomotives and buses
- Light Trucks, RVs, SUVs, Heavy Trucks and Buses with diesel engines
- Particularly suited for latest engines fitted with after-treatment devices including EGR and SCR

PRODUCT PERFORMANCE

- Excellent detergent system helps keep pistons and other engine parts clean for long engine life
- Good thermal breakdown resistance ensures engine protection under modern severe engine conditions
- This low SAPS (Sulfated Ash, Phosphorus and Sulfur) engine oil can reduce the blockage of filter for exhaust gas treatment
- In cold condition, good fluidity provides easy start and prevents wear damage in initial stage
- Excellent oxidation resistance, anti-wear and anti-corrosion properties protect your engine during operation

PERFORMANCE LEVEL

ACEA E7, Volvo VDS-3, Cummins CES 20076/77/78, API CI-4/SL, Mack EO-M Plus, Caterpillar ECF-2/ECF-1-a, MB 228.3/229.1, Renault Truck RLD/RLD-2, DEUTZ DQC III-10, MTU 2, MAN M3275, Detroit Diesel 93K215/DHD-1

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	114.8	15.35	140	-38	238
20W-50	182.4	21.0	136	-30	243



S-OIL 7 BLUE #7 CH-4/SJ

Previous Name : S-OIL dragon CH-4/SJ

Synthetic Heavy Duty Diesel Engine Oil



PRODUCT USE

- Suitable to all turbocharged or normally aspirated diesel engines of civil works machines, trucks, fishing boats and locomotives
- Suitable for diesel stationary engines for energy production

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Excellent resistance of the oil film at high temperatures and resistance to oxidation
- Very high level of detergency and dispersion properties
- Very good anti-wear, anti-corrosion, anti-rust and anti-foaming properties

PERFORMANCE LEVEL

API CH-4/SJ

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	82.9	12.5	147	-38	222



S-OIL 7 BLUE #5 CH-4/SJ

Previous Name : S-OIL dragon CH-4/SJ

High-Quality Heavy Duty Diesel Engine Oil



PRODUCT USE

- Suitable to all turbocharged or normally aspirated diesel engines of civil works machines, trucks, fishing boats, locomotives
- Suitable for diesel stationary engines for energy production

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Excellent resistance of the oil film at high temperatures and resistance to oxidation
- Very high level of detergency and dispersion properties
- Very good anti-wear, anti-corrosion, anti-rust and anti-foaming properties

PERFORMANCE LEVEL

API CH-4/SJ

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	117.7	15.8	142	-40	226
20W-40	131.3	15	116	-35	244
20W-50	178.8	20.3	133	-33	232



S-OIL 7 BLUE #7 CF-4/SG

Previous Name : S-OIL dragon CF-4/SG

Synthetic Heavy Duty Diesel Engine Oil



PRODUCT USE

- Suitable to all turbocharged or normally aspirated diesel engines of civil works machines, trucks, fishing boats and locomotives
- Responds to the API CF-4 specifications for new low emission engines using low Sulfur fuels

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Exceptional detergency level and soot dispersion properties
- High performance level insures safer and longer drains intervals

PERFORMANCE LEVEL

API CF-4/SG

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
5W-30	65.4	10.9	158	-43	228



S-OIL 7 BLUE #5 CF-4/SG

Previous Name : S-OIL dragon CF-4/SG

High-Quality Heavy Duty Diesel Engine Oil



PRODUCT USE

- Suitable to all turbocharged or normally aspirated diesel engines of civil works machines, trucks, fishing boats, locomotives
- Responds to the API CF-4 specifications for new low emission engines using low Sulfur fuels

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Exceptional detergency level and soot dispersion properties
- High performance level insures safer and longer drains intervals

PERFORMANCE LEVEL

API CF-4/SG

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
50	231.6	20.6	103	-16	262
70	323.3	25.5	102	-13	278
10W-30	70.7	10.9	144	-40	228
15W-40	121.5	16.0	139	-34	234
15W-40 (TBN†)	123.3	16.1	140	-39	234
20W-50	171.7	19.3	128	-32	250
20W-50 (TBN†)	175.3	19.3	126	-32	254
25W-60	260.9	23.6	113	-26	256



S-OIL 7 BLUE #5 CF

Previous Name : S-OIL dragon CF

Monograde Heavy Duty Diesel Engine Oil



PRODUCT USE

- Suitable to all turbocharged or normally aspirated diesel engines of civil works machines, trucks, fishing boats, locomotives
- Responds to the API CF specifications for new low emission engines using low Sulfur fuels

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Exceptional detergency level and soot dispersion properties
- High performance level insures safer and longer drains intervals

PERFORMANCE LEVEL

API CF

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
40	142.4	14.8	103	-24	280
50	228.6	20.1	102	-15	282
70	335.5	25.7	100	-12	288



S-OIL 7 BLUE #5 CD/SF

Previous Name : S-OIL dragon CD/SF

Multigrade Heavy Duty Diesel Engine Oil



PRODUCT USE

- All turbocharged or normally aspirated diesel engines for all services when the manufacturer has no special requirement

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Excellent resistance of the oil film at high temperatures and resistance to oxidation
- Very high level of detergency and dispersion properties
- Very good anti-wear, anti-corrosion, anti-rust and anti-foaming properties

PERFORMANCE LEVEL

API CD/SF

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
20W-50	164.6	18.6	127	-27	262



S-OIL 7 BLUE #9 CNG BEST LL

Previous Name : S-OIL 7 CNG BEST LL

Top Tier Fully Synthetic Heavy Duty CNG Engine Oil



PRODUCT USE

- All Buses, Trucks with CNG Engines
- Suitable to use in LPG/LNG Engines

PRODUCT PERFORMANCE

- Enhanced anti-oxidation and anti-nitration performance for severe operating condition compared with gasoline or diesel engine
- Excellent low temperature fluidity and anti-wear performance to protect system even in cold weather
- Optimized additives technology to reduce the formation of sludge or deposit
- Extended drain interval thanks to severely hydrotreated synthetic base oil made by S-OIL
- Enhanced anti-wear performance for dry operating condition to prevent valve recession and guttering or burning
- Compatible after-treatment system
- Excellent anti-corrosion and anti-foam tendency

PERFORMANCE LEVEL

API CF, Cummins CES 20074, Detroit Diesel Series 50/60

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	100.8	15	156	-40	248



S-OIL 7 BLUE #5 CNG BEST

Previous Name : S-OIL dragon CNG BEST

Multigrade Oil For Natural Gas Engine



PRODUCT USE

- All Buses, Trucks with CNG Engines
- Suitable to use in LPG/LNG Engines
- High output, highly turbocharged 4-stroke stationary natural gas engines

PRODUCT PERFORMANCE

- Formulated with optimized ash contents to prevent wear damage or troubles of valve system
- Excellent anti oxidation and nitration performance at very high operation temperature of CNG engine
- High chemical stability and long drain interval helps the engine stay in good condition during whole period
- Good fluidity at low temperature, so it secure the excellent cold startability and fewer oil consumption

PERFORMANCE LEVEL

Cummins CES 20074, Detroit Diesel Series 50 & 60

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	111.2	14.4	132	-35	236

**MCO & GEAR OIL
& SPECIALTY**

REBOOT YOUR ENGINE WITH ORIGINAL K-LUBE!

**DYNAMIC DRIVING
WITH TOP CLASS
LUBRICANTS
FROM KOREA!**

"S-OIL 7" is mainly based on HVI, VHVI base oil directly produced from S-OIL and represent a high quality premium lubricants. S-OIL 7 maximized 5 main characteristics(Fuel Economy, Eco-Friendly, Drivability, Durability, Cleanness).

S-OIL 7 embodied the '7' elements of high quality lubricant by combining 2 customer values - 'Ascend (increase)', symbolizing satisfaction of the driving experience of consumers, and 'Forward (advance)', meaning the development of driving function of automobile.

S-OIL 7 ATF MULTI

Previous Name : S-OIL 7 ATF MULTI

Fully Synthetic MULTI-Purpose 4/5/6/7/8 Speed Automatic Transmission Fluid



PRODUCT USE

- Wide range of 4/5/6/7/8 speed automatic gearboxes in Asian, European, American passenger vehicles
- Follow the vehicle's ATF fluid change interval and performance level recommended in your owner's manual

PRODUCT PERFORMANCE

- 100% Synthetic base oil helps maintain oils initial conditions thanks to good stability and high viscosity index
- Exceptional friction and anti-shudder performances with advanced technology
- Excellent viscosity stability in operation
- Good thermal stability, resistance to oxidation and wear protection

PERFORMANCE LEVEL

GM Dexron II/IIID/IE/IIIG/IIIH/VI, FORD Mercon, MB 236.5/6/7/8/9/91/10/11, HYUNDAI KIA SP-II/SP-III, NISSAN Matic D/J/K, JASO M315 1A, TOYOTA D-II/T-T-III/T-IV/WS, ZF TE-ML 11A/B

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
ATF Multi	36.8	7.0	153	-46	232

S-OIL 7 ATF VI

Previous Name : S-OIL 7 ATF VI

Fully Synthetic 6/7/8 Speed
Automatic Transmission Fluid



PRODUCT USE

- The latest generation of high efficiency 6/7/8 speed automatic transmission

PRODUCT PERFORMANCE

- Excellent viscosity stability in operation
- Exceptional friction and anti-shudder performances
- Enhanced fuel economies thanks to low viscosity and excellent low temperature performance
- Excellent thermal stability and resistance to oxidation

PERFORMANCE LEVEL

GM Dexron VI, FORD Mercon LV, Mazda FZ, MB 236.12/14/15/41, HYUNDAI KIA SP, SP-II/III/IV/SP-IV-M/SP-IV-M1/SP-IV-RR, Mitsubishi ATF J-3, NISSAN Matic S, TOYOTA T-WS, JASO 1A, Honda DW-1, ZF Lifeguardfluid 6/6 Plus/8

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
ATF VI	30.2	6.0	153	-50	215

S-OIL 7 ATF DEXRON VI

Previous Name : S-OIL 7 ATF DEXRON VI

Synthetic Automatic Transmission Fluid
Officially Approved By GM



PRODUCT USE

- S-OIL SEVEN ATF DEXRON®-VI is recommended for all 2006 and beyond GM's vehicles with automatic transmissions.
- S-OIL SEVEN ATF DEXRON®-VI is also fully back-serviceable and can be used wherever DEXRON-II and/or DEXRON III are recommended.

PRODUCT PERFORMANCE

- Extended drain intervals, Consistent shift performance
- Protect against wear, corrosion, and the formation of harmful deposits such as lacquers and sludge
- Excellent thermal stability and resistance to oxidation
- Excellent viscosity stability in operation
- Exceptional friction and anti-shudder performances
- Enhanced fuel economies thanks to low viscosity and excellent low temperature performance

PERFORMANCE LEVEL

GM DEXRON®-VI/II/III, HYUNDAI KIA SP-IV, FORD MERCON®, FORD M2C 138CJ, 166H, Mazda ATF FZ, F-1, S-1m Mitsubishi Diaqueen J2,3, ATF PA, MB 236.6,7,9, NISSAN Matic K, S, JASO 1A-LV, TOYOTA ATF T-IV, WS, Honda DW-1, ZF TE-ML 09, 09X, 11A 11B

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
ATF DEXRON-VI	29.5	6.0	159	-45	222

S-OIL 7 ATF III

Previous Name : S-OIL dragon ATF III

Synthetic Automatic Transmission Fluid Requiring
GM DEXRON III And ALLISON C-4



PRODUCT USE

- Suitable for use all transmissions of passenger cars, trucks, buses and public works machineries when a fluid type ALLISON C-4 is required
- Hydraulic systems when a fluid type GM DEXRON III is required

PRODUCT PERFORMANCE

- Very high viscosity index linked with an excellent viscosity stability in operation
- Very low pour point
- Excellent resistance to oxidation

PERFORMANCE LEVEL

GM TASA, DEXRON II(D/E), DEXRON III(G/H), Mazda ATF F-1, CAT TO-2,
Ford MERCON, ALLISON C-3/C-4/TES 389, Volvo CE97340, Vickers M2950-S, I-268-S

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
ATF III	35.1	7.48	228	-49	188

S-OIL 7 DCTF

Previous Name : S-OIL 7 DCTF

Synthetic Multi-Purpose Dual Clutch
Transmission Fluid



PRODUCT USE

- S-OIL SEVEN DCTF is suitable for use in dual clutch transmissions equipped with synchronization, gear set and hydraulic control.
- It is not recommended for dry clutch DCT type.

PRODUCT PERFORMANCE

- Excellent synchronizer and clutch performance due to balanced frictional characteristics.
- Exceptional wear resistance and resistance to oxidation
- Outstanding viscosity and temperature properties

PERFORMANCE LEVEL

VW/Audi/Skoda/SEAT(TL 052 182/052 529), MB(236.21),
Volvo(1161838/1161839), BMW(83 22 2 148 579/83 22 2 147 477/83 22 0 440
214/83 22 2 148 579), Ford/Getrag(M2C936A),
Mitsubishi(MZ320065 DIAGUEEN SSTF-I), Porsche(999.917.080.00),
Citroen(Peugeot/Citroen 9734.S2)

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
DCTF	34.7	7.1	171	L-40	214



S-OIL 7 CVTF

Previous Name : S-OIL 7 CVTF

Synthetic High Performance Transmisison Oil
For Belt-CVT And Chain-CVT



PRODUCT USE

- S-OIL SEVEN CVTF is designed for use in a wide range of CVT
- Although miscible and compatible with conventional branded gear oil, mixing with other gear oils should be avoided

PRODUCT PERFORMANCE

- S-OIL SEVEN CVTF ensures very stable friction coefficients
- Good shear stability
- Excellent anti-foam
- Anti-shudder durability

PERFORMANCE LEVEL

Recommended for use where the following specifications are called for :
Audi/VW(TL52180/TL52516), BMW(EZL 779A), Daihatsu(CVTF-DC/DFE), FCA(CVTF+4), Ford(WSS-M2C933-A/MERCON C/M2C928-A), GM(DEX-CVT, GM CVT), Honda(HCF-2), Hyundai/Kia(SP CVT-1), Mazda(CVTF 3320), MB(MB 236.30), Mitsubishi(CVTF J1/J4), Nissan(NS-1/NS-2/NS-3), Subaru(e-CVTF/CV-30/CVTF-II/CVTF/i-CVT F/i-CVT FG), Suzuki(CVT Green1/Green2/CVTF 3320), Toyota(Toyota TC/FE/WS)

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
CVTF	36.9	7.4	173	-49	218

S-OIL 7 GEAR EP

Previous Name : S-OIL dragon GEAR EP

Gear Oil For API GL-4



PRODUCT USE

- Gear boxes, axles, transfer boxes for truck, buses, construction equipment, tractor etc
- Vehicles with synchromesh

PRODUCT PERFORMANCE

- It is mixed with high performance additives including special extreme pressure additive to meet various performance requirements of gears
- High viscosity index
- Excellent anti-oxidant and anti-foam properties
- Excellent stability in service
- Good anti-wear property forms a film between gear contact surfaces under high/impact load to prevent damage of the gear face and reduce friction to enable smooth gear operation
- Suppresses formation of sludge under high temperature conditions thanks to superior thermal stability
- Exceptional anti-rust contributes to the long life of gears by preventing corrosion

PERFORMANCE LEVEL

API GL-4, US MIL-L-2105

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
90	190.9	17.5	99	-20	242

S-OIL 7 MTF FX

Previous Name : S-OIL dragon FX

Fuel-Saving High Quality Manual Transmission Oil



PRODUCT USE

- Front wheel drive gearboxes and transaxles of all passenger cars

PRODUCT PERFORMANCE

- Forms a stable lubricant film to prevent damage to the surface of parts
- Oxidation and thermal stability minimizes sludge, so it enhances the durability under various temperature
- Very high viscosity index ensures easy start-ability due to its excellent fluidity at low temperature and protects gears by forming very resistant oil film even at high operating temperature
- Good anti-wear and extreme pressure properties protect gears and synchronesh to ensure long life of critical parts
- Excellent anti-foaming, anti-rust and anti-corrosion
- This fluid has the advantage of smooth transition in gear shift

PERFORMANCE LEVEL

API GL-4

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
75W-85W	68.3	12.2	180	-42	205

S-OIL 7 GEAR HD

Previous Name : S-OIL dragon GEAR HD

Synthetic Based Multigrade Gear Oil
Requiring API GL-5



PRODUCT USE

- Suitable to all highly loaded gears (hypoid type gear applications, axles, final drivers, transfer cases and gearboxes) when an API GL-5 level of performance is required

PRODUCT PERFORMANCE

- Synthetic blended (75W-90) & Mineral based (80W-90, 85W-90, 85W-140) multi-grade oil.
- High viscosity index providing a good lubrication and allowing easy gear changes at low as well as high temperatures.
- Benefits of a low viscosity at low temperature.
- Very high Extreme-pressure properties.
- Excellent wear reducing properties, high oxidation resistance and anti-rust properties.
- Contributes to protect mechanical parts and improve drivability and driving stability

PERFORMANCE LEVEL

API GL-5, US MIL-L-2105D

Viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
75W-90	88.2	14.9	177	-35	216
80W-90	131.6	14.2	106	-35	226
85W-90	141.2	14.2	97	-26	230
85W-140	338.4	25.5	98	-25	238



S-OIL 7 GEAR LSD

Previous Name : S-OIL 7 GEAR LSD

High Performance Axle Oil
For Limited Slip Differentials



PRODUCT USE

- Manual transmission, transaxles and Differentials which require API GL-5 level performance lubricants
- Limited-slip hypoid differentials fitted in all kind of vehicles including cars, trucks and buses
- Especially suitable for Japanese OEMs' limited slip differential design

PRODUCT PERFORMANCE

- It is formulated with proven friction modifier suitable for conventional limited slip differentials, and will provide effective limited slip performance in severe operation condition
- Extreme pressure performance protect gears and bearings from scuffing and wear to ensure long life of critical parts
- Selected additive technologies and high quality base oil reduce maintenance cost by providing increased oxidation and thermal stability for minimized sludge and oxidation products
- Welled designed viscosity profile from hot to cold temperature provides reliable film thickness in hot operating condition and excellent fluidity in cold temperature for good start-up of vehicles

PERFORMANCE LEVEL

API GL-5, Suitable for conventional Japanese OEM's LSD

Viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
75W-90	79.8	14.4	189	-39	202
80W-90	135.5	14.3	104	-26	194

S-OIL 7 GEAR TO-4

Previous Name : S-OIL 7 GEAR TO-4

High Performance Lubricants For
Off-highway Equipments And Hydraulic System



PRODUCT USE

- Heavy-duty off-highway equipment's power shift, final drive, wet brake and hydraulic system
- Heavy-duty diesel engine oil requiring API CF/CF-2
- Other applications where manufacturers recommends a fluid meeting Caterpillar TO-4/TO-4M, Allison C4 specification

PRODUCT PERFORMANCE

- Excellent low temperature fluidity provides smooth start up performance and hardware protection in cold condition
- Maximized oil life from very good oxidation stability, resistance of sludge, varnish and deposit formation
- Latest corrosion inhibitor reduces maintenance cost by providing reliable protection of critical part in heavy-duty equipment
- It doesn't contain viscosity index improver made from polymer, so it provides consistent film thickness
- Proven anti-wear performance provides extreme protection characteristics over Caterpillar TO-4 requirement
- It provides optimized friction properties, so operator can feel comfortable and reliable

PERFORMANCE LEVEL

Caterpillar TO-4/TO-4M, Komatsu KES 07.861.1, ZF TE-ML-03C/07F, API MT-1, Allison C4, API CF/CF-2

Viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W	38.4	6.2	109	-32	228
30	93.7	11.1	105	-26	260
40	144.5	14.4	98	-21	262
50	205.0	18.2	97	-18	268



S-OIL 7 4T RIDER #9 MA2

Previous Name : S-OIL 7 4T RIDER

Fully Synthetic Engine Oil
Designed For High Performance 4-Stroke Motorcycle



PRODUCT USE

- All type of modern 4-stroke motorcycle engines of all cubic capacities, for most severe condition of use
- Adapted for gear boxes lubrication and oil immersed clutches
- Suitable for bikes where API SN (and below) and JASO MA or MA2 specification are recommended

PRODUCT PERFORMANCE

- Full Synthetic base oil helps maintain oils initial conditions thanks to good stability and high viscosity index
- Base oil's good quality provides long engine life and low costs for maintenance (But manufacturers' recommended oil change intervals must be complied with)
- Excellent engine and major parts lubrication and protection in all severe condition including normal daily urban or rural traffic (long trips, short commuting and stop and go conditions)
- High friction factor proved by official friction test (SAE No.2) gives good transmission performance by preventing clutch slippage

PERFORMANCE LEVEL

JASO MA2, API SN PLUS(10W-40, 10W-50), API SL(10W-30)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	77.1	11.9	150	-33	254
10W-40	98.2	14.6	154	-33	260
10W-50	124.2	17.7	158	-33	256



S-OIL 7 4T SCOOTER #9 MB

Previous Name : S-OIL 7 4T SCOOTER

Fully Synthetic Engine Oil
Designed For High Performance 4-Stroke Motorcycle



PRODUCT USE

- Recommended for the modern 4-stroke motorcycle engines such as scooters and mopeds
- Not recommended for use in wet clutch application
- Adapted for gear boxes lubrication and oil dry clutches such as CVT technology
- Suitable for bikes where API SN (and below) and JASO MB specification are recommended

PRODUCT PERFORMANCE

- Full Synthetic base oil helps maintain oils initial conditions thanks to good stability and high viscosity index
- Base oil's good quality provides long engine life and low costs for maintenance (But manufactures' recommended oil change intervals must be complied with)
- Excellent engine and major parts lubrication and protection in all severe condition including normal daily urban or rural traffic (long trips, short commuting and stop and go conditions)
- Lower friction factor proved by official friction test (SAE No.2) gives good transmission performance and fuel economy improvement

PERFORMANCE LEVEL

JASO MB, API SN PLUS(10-40), API SL(10W-30)

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-30	77.0	11.9	150	-33	254
10W-40	97.3	14.4	152	-33	254



S-OIL 7 4T RIDER #7 MA2

Synthetic Multi-Purpose 4-Stroke Gasoline Engine Oil



PRODUCT USE

- All type of modern 4-stroke motorcycle engines of all cubic capacities, for most severe condition of use
- Adapted for gear boxes lubrication and oil immersed clutches
- Suitable for bikes where API SN (and below) and JASO MA or MA2 specification are recommended

PRODUCT PERFORMANCE

- Synthetic base oil helps maintain oils initial conditions thanks to good stability and high viscosity index
- Base oil's good quality provides long engine life and low costs for maintenance (But manufacturers recommended oil change intervals must be complied with)
- Excellent engine and major parts lubrication and protection in all severe condition including normal daily urban or rural traffic (long trips and short commuting under stop-and-go conditions)
- High friction factor proved by official friction test gives good transmission performance by preventing clutch slippage

PERFORMANCE LEVEL

JASO MA2, API SN PLUS

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
10W-40	97.5	14.3	151	-36	236
15W-50	146.9	18.8	145	-25	266

S-OIL 7 4T RIDER #5 MA2

High Quality Multi-Purpose 4-Stroke
Gasoline Engine Oil



PRODUCT USE

- All type of modern 4-stroke motorcycle engines of all cubic capacities, for most severe condition of use
- Adapted for gear boxes lubrication and oil immersed clutches
- Suitable for bikes where API SN (and below) and JASO MA or MA2 specification are recommended

PRODUCT PERFORMANCE

- Very high viscosity index and good viscosity stability in operation
- Exceptional detergency level and soot dispersion properties
- Very high level of detergency and dispersion properties
- Very good anti-wear, anti-corrosion, anti-rust and anti-foaming properties

PERFORMANCE LEVEL

JASO MA2, API SN PLUS

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
15W-40	110.5	14.6	136	-30	232
20W-40	118.4	14.4	123	-30	248
20W-50	146.2	18.1	138	-30	238



S-OIL 7 2T RIDER #5 FC 20

Previous Name : S-OIL dragon 2T

Synthetic/High Quality Multi-Purpose 2-Stroke Gasoline Engine Oil



PRODUCT USE

- All types of two stroke motorcycle engines of all cubic capacities (motorcycles, scooters and mopeds)
- Adapted for gear boxes lubrication and oil immersed clutches for premixing with gasoline at the ratio recommended by the engine capacities manufacturer

PRODUCT PERFORMANCE

- The strong and efficient detergent additives ensure that the distribution system remains clean and engine retains its initial efficiency
- Makes a permanent oil film, preventing any risk of seizure or binding
- Burns without leaving any sticky deposits
- The special solvents and polymers it contains help reduce exhaust smoke and emissions
- Avoids sparks plug fouling
- Very good anti-corrosion, anti-rust and anti-wear properties
- Pre-diluted to ensure a stable and homogeneous mixture

PERFORMANCE LEVEL

JASO FC, API TC

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
20	47.6	8.1	142	-35	114

S-OIL 7 CLEAN

Fully Synthetic Engine Flushing Oil
For Gasoline, Diesel And LPG/CNG/LNG Engine



PRODUCT USE

- It is designed for use in all engine types (gasoline, diesel and LPG) in passenger cars, SUVs, light and heavy duty commercial vehicles, motorcycles and so on

PRODUCT PERFORMANCE

- When exchanging the engine oil it removes the existing used oil and sludge
- Piston oil film is formed smoothly
- Improve ride comfort and noise reduction
- Reducing the exhaust to Improve the fuel efficiency

USE METHOD

- Drain the existing engine oil
- Idling for 10 minutes after injection S-OIL 7 CLEAN
- Drain S-OIL 7 CLEAN
- Replace the oil filter with a new one and fill the new engine oil

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
CLEAN	33.5	6.2	134	-17	248



S-OIL 7 OUTBOARD 2T TC-W3

Two-Stroke Premium Outboard Motor Oil



PRODUCT USE

- All two-stroke, water cooled, marine outboard gasoline engines where NMMA TC-W3® lubricants required
- Lawn mower, leaf blower, golf carts, chain saws and other two-stroke powered equipment
- Suitable for two-stroke engines manufactured by Mercury, Evinrude, Yamaha, Nissan and Suzuki where NMMA TC-W3® lubricants required

PRODUCT PERFORMANCE

- Advanced ashless detergent and dispersant system provides protection against piston ring sticking, spark plug fouling, So keeps piston, rings, plugs and exhaust port clean
- Easy mixing and stable mixtures with gasolines even at low ambient temperatures.
- Trouble free operating and reduces maintenance costs
- Excellent rust and corrosion protection in fresh or salt water
- Certified by NMMA for service TC-W3 at the manufacturer's recommended fuel / oil ratio

PERFORMANCE LEVEL

National Marine Manufacturers Association (NMMA) TC-W3® Certified RL-13880W

TYPICAL PROPERTIES

TEST ITEM	METHOD	UNIT	S-OIL Outboard 2T TC-W3
Specific Gravity	ASTM D1298	-	0.8651
Viscosity 40 °C	ASTM D445	cSt	46.0
Viscosity 100 °C	ASTM D445	cSt	8.0
Viscosity Index	ASTM D2270	-	129
Flash Point	ASTM D92	°C	106
Pour Point	ASTM D97	°C	-41



S-OIL 7 POWER STEERING FLUID

Power Steering Fluid For Smooth Steering Wheel
Operation By Improving Low Temperature Fluidity



APPLICATIONS

- Automotive hydraulic system of power steering wheel and shock absorber
- ISO VG 32

FEATURES AND POTENTIAL BENEFITS

- Excellent stability at high temperature
- Protects mechanical parts due to its good shear stability
- Anti-oxidant minimizes the formation of sludge or deposit and assures long oil and engine life
- Excellent anti-foam tendency prevents cavitation and makes operation stable
- Forms strong adsorption film on the metal surface to prevent corrosion by water and foreign matter
- Improves drivability and smooth steering performance

TYPICAL PROPERTIES

Product	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
POWER STEERING FLUID	30.2	5.3	104	-31	218



S-OIL 7 SUPER COOLANT LL

Long Life Coolant And Antifreeze To Cool Gasoline,
Diesel And LPG/LNG/CNG Engines With
The Change Interval Of 5 Year Or 200,000km



APPLICATIONS

- Production line of car makers.(KIA, HYUNDAI Motors, 10years/200,000km)
- Industrial cooling system and vessel refrigerator system

FEATURES AND POTENTIAL BENEFITS

- Outstanding hot surface aluminum protection
- Superior protection in high operating temperatures
- Improve water pump life due to reduced water pump seal wear
- Excellent long-term corrosion protective for metal corrosion in the cooling System

PERFORMANCE LEVEL

HYUNDAI KIA Motors MS 591-08, MM ES-X64217, Mazda Motors MES MN 121K,
GB 29743, KS M 2142, JIS K 2234, ASTM D3306

FREEZING TEMP (MIXTURE RATIO)

Antifreeze, vol%	30	40	50	60
Water, vol%	70	60	50	40
Freezing Temp, °C	-16	-25	-36	-50

TYPICAL PROPERTIES

TEST ITEM	UNIT	S-OIL 7 SUPER COOLANT LL
Color	Color	Pink
pH, 33 vol% in distilled water	pH	8.2
Specific Gravity, 20°C	-	1.135
Water Content	Mass %	4.6
Boiling Point	°C	168
Flash Point	°C	124



S-OIL 7 SUPER COOLANT

Coolant And Antifreeze To Cool Gasoline,
Diesel And LPG/LNG/CNG Engines As Well As
Preventing Them From Freezing



APPLICATIONS

- Industrial cooling system, vessel refrigerator system

FEATURES AND POTENTIAL BENEFITS

- Outstanding hot surface aluminum protection
- Superior protection in high operating temperatures
- Improve water pump life due to reduced water pump seal wear
- Excellent long-term corrosion protective for metal corrosion in the cooling system

PERFORMANCE LEVEL

KS M 2142, ASTM D3306, GB 29743, JIS K 2234

FREEZING TEMP (MIXTURE RATIO)

Antifreeze, vol%	30	40	50	60
Water, vol%	70	60	50	40
Freezing Temp, °C	-16	-25	-36	-50

TYPICAL PROPERTIES

TEST ITEM	UNIT	S-OIL 7 SUPER COOLANT
Color	Color	Red
pH, 33 vol% in distilled water	pH	8.0
Specific Gravity, 20°C	-	1.132
Water Content	Mass %	4.0
Boiling Point	°C	170
Flash Point	°C	124

S-OIL 7 BRAKE FLUID

Designed For Use Where Motor Vehicle
Brake Fluid Is Recommended
By The Motor Vehicle Manufacturer



PRODUCT USE

- S-OIL BRAKE FLUID is designed for use where a Class3 and 4 motor vehicle brake fluid is recommended by the motor vehicle manufacturer.

STORAGE

- S-OIL BRAKE FLUID should be stored in its original container until use.
- S-OIL BRAKE FLUID is hygroscopic by nature. Containers should be kept sealed to prevent the absorption of moisture.

PERFORMANCE LEVEL

S-OIL BRAKE FLUID DOT meets and exceeds the requirements of the following specifications for DOT brake fluid. ISO 4925, FMVSS 116, SAE J1704

TYPICAL PROPERTIES

Product	Boiling Point		Viscosity		pH	Color
	Dry	Wet	40°C	100°C		
DOT-3	240°C /464°F	146°C /295°F	1,300	2.0	8.8	Amber
DOT-4	262°C /500°F	173°C /320°F	1,100	2.0	8.0	Amber

S-OIL INDUSTRIAL & MARINE LUBRICANTS PRODUCT LINE

SUPER START, SUPER SUSTAIN, STRONG IMPRESSION!

S-OIL produces and supplies a wide range of high performance products to run systems in an efficient and stable way and to respond to various market demands by repeating continuous change and development.

HYDRUALIC OIL	S-OIL HI-PUMP	HYDRO MASTER HV	HYDRO MASTER LZ	HYDRO SUPER	HYDRO FLUID AW	HYDRO FLUID
INDUSTRIAL GEAR OIL	S-OIL GEAR LUBE					
TURBINE OIL	S-OIL TURBINE OIL					
SLIDE WAY OIL	S-OIL HI-WAY					
COMPRESSOR OIL	S-OIL COMPRESSOR P	S-OIL COMPRESSOR RS				
MECHANIC OIL	S-OIL MECHANIC OIL					
PROCESS OIL	S-OIL PROCESS OIL					
TRANSFORMER OIL	S-OIL TRANSFORMER OIL LT	S-OIL TRANSFORMER OIL T	S-OIL TRANSFORMER OIL I			
CUTTING OIL	S-OIL METAL CT					
MARINE OIL	S-OIL MARINE TP	S-OIL MARINE CL	S-OIL MARINE SO			
GREASE	S-OIL GREASE MP/EP	S-OIL GREASE SUPER EP	S-OIL GREASE MOLY	S-OIL GREASE HT	S-OIL GREASE LT	



S-OIL HI-PUMP

Zinc-Free Industrial Hydraulic Fluid
For Wide Temperature Range



PRODUCT USE

- Suitable for a wide range of hydraulic power mobile applications under wide temperature range
- Any hydraulic system where risk of contamination of the environment and water exist
- Any application where an anti-wear, high VI and high performance oil is necessary
- Low toxicity towards the environment

PRODUCT PERFORMANCE

- Outstanding wear protection: Advanced Zinc-free additives ensure protection of machine parts
- Long fluid life: Reducing maintenance costs
- Maintaining system efficiency: Superior cleanliness and excellent filterability
- Environmentally friendly formulation: Prevent formation of deposit
- Extended temperature range capability

PERFORMANCE LEVEL

ISO 11158 (HV), Cincinnati Machine P68/P69/P70, AFNOR NFE 48603 (HM)
ASTM D6158 (HV), GM LH-04-1/LH-06-1/LH-15-1, US Steel 127/136,
SAE MS 1004 (HV), Eaton Vickers I-286-S/M-2950-S, Denison HF-0/HF-1/HF-2,
DIN 51524 PART II (HLP)/III (HVLP), Bosch Rexroth RE 90220

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
15	15.6	4	161	-50	206	0.837
22	22.3	4.9	153	L-40	230	0.836
32	32.6	6.4	151	-45	244	0.846
46	46.2	8.2	153	-40	250	0.848
68	67.7	10.9	150	-40	252	0.864
100	98.9	14.5	152	-37	256	0.873

S-OIL HYDRO MASTER HV

Industrial Hydraulic Fluid for Construction Equipment



PRODUCT USE

- Suitable for a variety of hydraulic power applications under a wide temperature range
- Mobile and exterior hydraulic equipment
- Any hydraulic systems where the risk of contamination of the environment and water exist
- Any applications where anti-wear and high viscosity index oil is necessary

PRODUCT PERFORMANCE

- Outstanding wear protection Ensuring protection of machine parts.
- Long fluid life Reducing maintenance costs.
- Superior cleanliness and excellent filterability maintain system efficiency
- Extended temperature range capability

PERFORMANCE LEVEL

Bosch Rexroth RDE 90235, Parker HF-0/1/2, Eaton E-FDGN-TB002-E, Fives P68/P69/P70, DIN 51524-2/3, ISO 11158, GB 11118.1, ASTM D6158, SAE MS 1004, JCMAS P041 HK, GM LS-2, AIST 126/127, SEB 181222

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
15	15.8	3.9	148	-54	208	0.835
32	32.3	6.4	150	-40	244	0.843
46	46.6	8.2	152	-33	250	0.849
68	69.3	11.1	151	-39	256	0.858



S-OIL HYDRO MASTER LZ

Low-Zinc Industrial Hydraulic Fluid
For Wide Temperature Range



PRODUCT USE

- Mobile/exterior hydraulic application: Suitable for a wide range of hydraulic power applications under wide temperature range
- Any hydraulic system where risk of contamination of the environment and water exist
- Any application where an anti-wear, high VI, high-performance oil is necessary
- Low toxicity towards the environment

PRODUCT PERFORMANCE

- Outstanding wear protection: Advanced Low-Zinc additives ensure protection of machine parts.
- Long fluid life: Reducing maintenance costs
- Maintaining system efficiency: Superior cleanliness, excellent filterability
- Environmentally friendly formulation: Prevent formation of deposit
- Extended temperature range capability

PERFORMANCE LEVEL

ISO 11158 (HV), Eaton Vickers I-286-S, M-2950-S, ASTM D6158 (HV), Bosch Variable Volume vane pump, SAE MS 1004 (HV), US steel 127, DIN 51524 PART III (HV), GM LS-2, Denison HF-0, HF-1, HF-2, Five Cincinnati P68, P70

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
46	46	8.4	160	L-42	254	0.8481

S-OIL HYDRO SUPER

Multi Purpose
Anti-Wear Hydraulic Fluid



PRODUCT USE

- Industrial hydraulic system: Suitable for a wide range of hydraulic power applications
- Marine hydraulic system
- Any application where an anti-wear, high-performance oil is necessary

PRODUCT PERFORMANCE

- Excellent anti-wear properties ensuring protection of machine parts
- Great lubricity at high temperature thanks to base stock's high viscosity index
- Prevents formation of deposits in the circuit thanks to remarkable thermal stability
cleaner circuits, less clogging of the filters
- Low pour point helps to reduce friction during operation at low temperature
- Reduced maintenance costs

PERFORMANCE LEVEL

ISO 11158 (HM), DIN 51524 PART II (HLP), ASTM D6158 (HM),
GM LS-2/LH-03/LH-04/LH-06, SAE MS 1004 (HM), Eaton Vickers M-2950-S/I-286-S
Denison HF-0, JCMAS HK, Cincinnati Machine P68/P69/P70, US Steel 127/136

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
32	32	5.9	130	-38	230	0.843
46	46	7.6	133	-35	232	0.845
68	68	9.4	116	-33	235	0.862



S-OIL HYDRO FLUID AW

Industrial Hydraulic Fluid



PRODUCT USE

- Industrial hydraulic system suitable for a wide range of hydraulic power applications
- Applications where sludge and deposit form with conventional products
- Any application where an anti-wear, high-performance oil is necessary

PRODUCT PERFORMANCE

- Outstanding wear protection Ensuring protection of machine parts
- Long fluid life Reducing maintenance costs
- Maintaining system efficiency Superior cleanliness, excellent filterability

PERFORMANCE LEVEL

ISO 11158 (HM), Eaton Vickers M-2950-S/I-286-S, JCMAS HK

US Steel 127, Denison HF-0 (Hybrid Pump), GM LS-2/LH-03/LH-04/LH-06,

DIN 51524 PART II, Cincinnati Machine P68/P69/P70

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
10	10	2.7	104	-57	178	0.838
32	32	5.4	104	-35	218	0.863
46	46	6.8	99	-37	228	0.868
68	68	8.8	102	-35	238	0.874
100	100	11.5	102	-28	258	0.878
150	155	15.4	100	-24	266	0.883
220	220	19.2	98	-20	266	0.887

S-OIL HYDRO FLUID

Rust & Oxidation Hydraulic Oil



PRODUCT USE

- Designed for use in all kind of hydraulic system operating under high pressure and normal temperature conditions such as in machine tools, injection mold machine, presses and other industrial equipment
- Used in many other applications where a universal anti-wear lubricant is the first choice: low charged gears, sliding and roller bearings

PRODUCT PERFORMANCE

- Good resistance to oxidation avoiding formation of sludge at normal operation temperature and ensuring a long service life of the fluid
- Outstanding anti-foam ability for equipment trouble control
- Good filterability even in the presence of water
- Excellent protection against rust and corrosion
- Good demulsibility ensuring rapid water separation

PERFORMANCE LEVEL

DIN 51524 PART I (HL), ISO 11158 (HL Fluids), Cincinnati Machine P38/P54/P55

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s (cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
32	31.8	5.4	104	-38	216	0.862
46	45.9	6.8	103	-40	228	0.868
68	66.3	8.7	102	-38	238	0.873



S-OIL GEAR OIL

High Performance Industrial Gear Oil



PRODUCT USE

- Recommended for all types of industrial equipment in mild load EP condition

PRODUCT PERFORMANCE

- Excellent thermal and oxidation stability to prevent downtime or troubles
- Excellent EP and anti-wear properties
- Good separation between water and lubricants
- Improved fluidity in cold condition helps efficiently in any weather condition

PERFORMANCE LEVEL

U.S. Steel 224, DIN 51517 PART 3, AGMA 9005-EO2,
David Brown S1.53.101, Fives Cincinnati Gear Oils, ISO 12925-1 CKC/CKD

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
100	100.1	11.6	104	-25	260
150	150.3	15.1	100	-19	268
220	218.9	19.2	100	-17	264
320	316.6	24.3	97	-16	260
460	456.9	30.5	96	-15	306

S-OIL TURBINE OIL

Synthetic Industrial Turbine Oil



PRODUCT USE

- Steam & Hydraulic turbines operating under all service conditions

PRODUCT PERFORMANCE

- Good anti-foam performance for equipment trouble control
- Good filterability even in the presence of water
- Environmental friendly formulation with ashless additive technology
- Excellent protection against rust and corrosion
- Good demulsibility ensuring rapid water separation
- Reduced maintenance costs due to high oxidation and thermal stability
- Good resistance to oxidation avoiding formation of sludge at normal operation temperature and ensuring a long service life of the fluid thanks to high quality synthetic base oil

PERFORMANCE LEVEL

DIN 51515, PART I (L-TD), PART II (L-TG), CEGB Standard 207001, Siemens TLV 9013 04/01, Brown Boveri HTGD 90117, British Standard BS489, U.S. Steel 120, General Electric GEK 32568 A/C, Westinghouse Electric Corp, MIL-L-17672D, Alstom HTGD 90 117 V0001 S

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
32	33.2	5.8	129	-37	242
46	46.5	7.8	129	-31	245



S-OIL HI-WAY

High Performance Machine Tool Slideway Oil



PRODUCT USE

- Suitable for use in machine tool of slides, tables and feed mechanisms

PRODUCT PERFORMANCE

- Good separation between coolant and slideway, maintain initial lubrication performance after separation
- Good frictional property thanks to high performance friction modifier and anti-wear additive prevents stick-slip and provides increased speed of operation and decreased shutdowns
- Sufficient adhesive lubrication films prevent wear and damage on the surface of your machines
- Good thermal and oxidation stability provides long oil life and stable operation

PERFORMANCE LEVEL

Cincinnati Milacron P-47, GM LS-2

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)	Specific gravity
	40°C	100°C				
32	32	5.4	108	L-40	220	0.863
46	46	7	113	L-40	222	0.866
68	68	9.3	108	-35	226	0.872
220	220	19.4	100	-18	256	0.886

S-OIL COMPRESSOR P

Long Life Reciprocating Compressor Oil



PRODUCT USE

- Reciprocating compressors operating with temperature of up to 220°C in air compressors

PRODUCT PERFORMANCE

- Outstanding oxidation and thermal stability provides longer oil life and reduction of maintenance cost
- Effectively reduce the formation of sludge and deposit even in high temperature condition, so it provides continuous efficient operation
- Excellent rust and copper corrosion control protect your part and prevents oil deterioration
- Outstanding wear protection minimizes wear of metal surfaces such as valve, ring and cylinders
- Excellent water separation performance helps maintain normal operation condition and reliable operation
- Prevention of emulsification and greening of drains, contributing to laborsaving

PERFORMANCE LEVEL

DIN 51506 VDL

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
32	32.6	5.5	107	-32	222
46	46.9	7.1	108	-34	230
68	68.4	9.0	107	-37	238
100	100.4	11.6	104	-37	252



S-OIL COMPRESSOR RS

Long-Life Rotary Screw Compressor Oil



PRODUCT USE

- Oil injection rotary and screw type air compressor

PRODUCT PERFORMANCE

- Outstanding oxidation and thermal stability provides longer oil life and reduction of maintenance cost
- Effectively reduce the formation of sludge and deposit even in high temperature condition, it provides continuous efficient operation
- Excellent rust and Copper corrosion control to protect your parts such as valves, rings and cylinders.
- Excellent water separation performance helps maintain normal operation condition and reliable operation
- Very severely hydro-treated base oil and selected additive system provides excellent low temperature fluidity and low volatility to prevent oil carryover or trouble under cold whether

PERFORMANCE LEVEL

DIN 51506 VDL ISO DP 6521/6743 L-DAG/6743 L-DAH

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
32	31.9	5.9	133	-35	238
46	46.1	7.6	131	-31	258
68	67.8	9.2	111	-29	260

S-OIL MECHANIC OIL

Synthetic Technology
Ashless General Purpose Mechanical Oil



PRODUCT USE

- General purpose industrial applications
- Industrial gear cases under moderate operating condition
- Hydraulic system where rust and oxidation prevention performance required.
- Industrial circulation system
- Steam or hydraulic turbine or bearings

PRODUCT PERFORMANCE

- Long service life of the fluid thanks to high quality synthetic base oil.
- Reduced maintenance costs due to high oxidation and thermal stability
- Good anti-foam performance for equipment trouble control
- Excellent protection against rust and corrosion
- Good filterability even in the presence of water
- Good water separation performance
- Good resistance to oxidation avoiding formation of sludge at normal operation temperature

PERFORMANCE LEVEL

General purpose product

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
32	32.4	5.9	129	-37	241
46	46.1	7.8	130	-31	245
68	68.1	9.4	119	-29	253
100	101.5	11.8	105	-28	254
220	221.4	19.4	99	-18	272
320	319.4	24.4	97	-16	290



S-OIL PROCESS OIL

Highly Refined Paraffinic Process Oil



PRODUCT USE

- Sealant, coatings, polymer production, deformer, rubber machine, asphalt extender
- Automotive under hood parts, moldings, sound and vibration dampening material, tires
- Textile industry
- Heat transfer fluids
- Wire and cable insulation, sheathing

PRODUCT PERFORMANCE

- Wide range of viscosities
- Improved process efficiency by low evaporation loss at high temperature
- Highly saturated and low aromatic content
- Excellent oxidation stability
- Light-colored and very good color stability

TYPICAL PROPERTIES

SAE viscosity	Kinematic viscosity, mm ² /s(cSt)		Viscosity index	Pour point (°C)	Flash point (°C)
	40°C	100°C			
60	7.6	2.3	103	-36	158
70	14	3.4	115	-27	202
80	15.9	3.6	112	-24	208
100+	19.7	4.3	124	-20	220
150	29.7	5.2	105	-18	218
150+	32.5	6.0	134	-16	240
250+	41.1	7.1	134	-14	250
500	96.4	11.3	104	-18	240
150S	30.5	5.2	101	-12	212
500S	95.9	11.2	96	-14	258
480	488.6	31.9	96	-14	316
60D	8.0	2.2	72	-17	150
350	66.9	9.3	117	-14	240

S-OIL TRANSFORMER OIL LT

High Performance
Alkylbenzenes Electrical Insulating Oil



PRODUCT USE

- Power transformers, distribution transformers, converters, rectifier, circuit breakers and switchgear

PRODUCT PERFORMANCE

- Excellent oxidation stability with selected anti-oxidant provides extended oil life and stable operation
- Proved anti-corrosion performance with very low Sulfur contents
- Good low temperature fluidity provides continuous operation regardless of any weather condition
- Effective cooling and heat transfer performance and very good dielectric properties
- No impurities such as water, dissolved gas, DBDS, suspended solid and PCB

PERFORMANCE LEVEL

IEC 60867 Class I (Alkylbenzenes), KS C 2301 Class 2-3

TYPICAL PROPERTIES

PROPERTIES	UNITS	S-OIL TRANSFORMER OIL LT
Appearance	-	Clear
Density @ 15°C	g/cm ³	0.8498
Viscosity at 40°C	cSt	4.98
Viscosity at 100°C	cSt	1.6
Pour Point	°C	< - 70
Flash Point	°C	155
Acidity	mg KOH/g	< 0.01
Water Content	mg/kg	23
Breakdown Voltage (untreated/treated)	kV	75
Dissipation Factor at 90°C	-	< 0.002
Potentially Corrosive Sulfur	-	Non Corrosive



S-OIL TRANSFORMER OIL T/I

Highly Refined Hydrotreated Electrical Insulating Oil
(Trace-inhibited / Inhibited)



PRODUCT USE

- Power transformers, distribution transformers, converters, rectifier, circuit breakers and switchgear

PRODUCT PERFORMANCE

- Excellent oxidation stability with selected anti-oxidant provides extended oil life and stable operation
- Proved anti-corrosion performance with very low Sulfur contents
- Good low temperature fluidity provides continuous operation regardless of any weather condition
- Effective cooling and heat transfer performance and very good dielectric properties
No impurities such as water, dissolved gas, DBDS, suspended solid and PCB

PERFORMANCE LEVEL

IEC 60296:2012 Table 2 transformer oil (T), (I), KS C 2301 Class 1

TYPICAL PROPERTIES

PROPERTIES	UNITS	S-OIL TRANSFORMER OIL T	S-OIL TRANSFORMER OIL I
Appearance	-	Clear	Clear
Density @ 15°C	g/cm ³	0.8285	0.8225
Viscosity at -30°C	cSt	284	269
Viscosity at 40°C	cSt	7.492	7.483
Viscosity at 100°C	cSt	2.222	2.218
Pour Point	°C	-55	-55
Flash Point	°C	159	151
Acidity	mg KOH/g	< 0.01	< 0.01
Oxidation Stability	-	-	-
- Total Acidity	mg KOH/g	0.1	< 0.01
- Sludge	wt%	< 0.01	< 0.01
- DDF @ 90°C	-	0.0066	0.0057
Inhibitors of IEC 60666	wt%	0.05	0.3
Water Content	mg/kg	18	17
Breakdown Voltage (untreated/treated)	kV	72 / 80	81 / 81
Dissipation Factor at 90°C	-	0.0145	0.0003
Corrosive Sulfur	-	Non Corrosive	Non Corrosive
Potentially Corrosive Sulfur	-	Non Corrosive	Non Corrosive
PCBs	mg/kg	Undetectable	Undetectable
DBDS	mg/kg	Undetectable	Undetectable
Metal Passivator additives	mg/kg	Undetectable	Undetectable
Furfural and related compounds	mg/kg	Undetectable	Undetectable

S-OIL METAL CT

High Performance
Emulsion Type Water Soluble Cutting Fluids



PRODUCT USE

- Aluminum metals Milling, Turning, Drilling, Grinding etc.
- Ferrous metals Milling, Turning, Drilling, Grinding etc
- Cutting 5~15%, Grinding 3~7% by volume
- Term of validity 12 months from the date of manufacture at sealed state, 0 to 40 °C

PRODUCT PERFORMANCE

- It has an excellent lubricity, suited for aluminum high speed processing.
- It has a good anti-rusting ability, can be applied to ferrous metals.
- It have a good anti-decomposition ability, emulsification stability, anti-foaming ability, cleaning ability, thus, may reduce emission for pollutants and dedicate worker to their operation condition.

PERFORMANCE LEVEL

	Cast Iron	Low Carbon Steel	High Carbon Steel	Stainless Steel	Heat resistant Steel	Non ferrous metals	Low billet aluminum	High billet aluminum
Reaming	5%	5%	5%	5%	6%	6%	6%	8%
Drilling	4%	4%	5%	5%	5%	6%	6%	8%
Milling	4%	4%	5%	5%	5%	6%	6%	8%
Tapping	4%	8%	8%	8%	8%	8%	8%	8%
Turning	4%	8%	8%	8%	8%	8%	8%	8%
Grinding	3%	3%	3%	3%	3%	3%	5%	5%

TYPICAL PROPERTIES

TEST ITEMS	METHOD	UNIT	S-OIL METAL CT 960
Appearance	-	-	-
-	-	x10	Milky
Specific gravity	ASTM D1122	15/4 °C	0.95
Ph, room temp,	ASTM D1287	X10	9.6



S-OIL MARINE TP

Medium-Speed Trunk-Piston Diesel Engine Oil



PRODUCT USE

- OIL MARINE TP series are primarily recommended for use in high-output trunk piston marine diesel engines operating on heavy residual fuels

PRODUCT PERFORMANCE

- Improved anti wear properties, reduces ring & liner wear.
- Reduces port and under crown deposits.
- Cleaner engine operation.
- Increased protection against cylinder and bearing wear.
- Outstanding thermal & oxidation stability extend periods between inspection & overhauling.
- Controls black sludge deposits thus increasing oil filter life and reduces cleaning frequencies.
- Excellent TBN retention with low oil consumption

PERFORMANCE LEVEL

SAE 30, 40

TYPICAL PROPERTIES

PRODUCTS	TBN	SAE	Kinematic viscosity, mm ² /s(cSt)			Pour point (°C)	Flash point (°C)
			40°C	100°C	Viscosity index		
TP 1230	12	30	98.3	11.6	106	-20	254
TP 1240	12	40	128.2	13.9	106	-19	256
TP 1530	15	30	96.2	11.5	107	-20	250
TP 1540	15	40	129.4	14.0	106	-18	272
TP 3030	30	30	93.06	11.4	111	-16	246
TP 3040	30	40	125.6	14.0	110	-14	258
TP 4030	40	30	91.36	11.4	113	-14	248
TP 4040	40	40	122.7	14.0	112	-13	258



S-OIL MARINE CL

Cylinder Lubricant
For 2-Stroke Low Speed Diesel Engine



PRODUCT USE

- S-OIL MARINE CL Series are recommended as a cylinder lubricant for all types of slow speed cross-head two stroke diesel

PRODUCT PERFORMANCE

- Use strong alkali additives to prevents corrosion wear of the cylinder liners
- High viscosity index maintain a strong film strength at high temperature
- Outstanding detergency capability leads to cleander piston rings and liners
- Excellent thermal stability can lead to reduced carbon deposits and sludge formation

PERFORMANCE LEVEL

MAN(2550, 7050, 10050)

TYPICAL PROPERTIES

PRODUCTS	TBN	SAE	Kinematic viscosity, mm ² /s(cSt)			Pour point (°C)	Flash point (°C)
			40°C	100°C	Viscosity index		
CL2540	25	40	126.5	14.0	107	-15	249
CL 2550	25	50	214.9	19.8	105	-14	272
CL 4050	40	50	220.2	19.7	102	-37.5	256
CL5040	55	40	127.1	14.1	109	-27	264
CL 5050	55	50	209.8	19.4	105	-28	260
CL 7050	70	50	211.7	19.6	105	-26	268
CL 10050	100	50	202.6	19.4	109	-29	258



S-OIL MARINE SO

High Quality Marine System Oil



PRODUCT USE

- S-OIL MARINE SO series are a high performance system oil that ensures enhanced cleanliness for two-stroke, crosshead type marine diesel engines operating under severe conditions.

PRODUCT PERFORMANCE

- Clean crankcase and circulation tanks
- Outstanding piston-cooling efficiency
- Increase protection against gear and bearing load carrying
- Provide improved rust protection
- Excellent water tolerance and separation
- Superior FZG performance and retention without impact to demulsibility

PERFORMANCE LEVEL

MAN(SAE 30)

TYPICAL PROPERTIES

PRODUCTS	TBN	SAE	Kinematic viscosity, mm ² /s(cSt)			Pour point (°C)	Flash point (°C)
			40°C	100°C	Viscosity index		
SO 0520	5	20	61.3	8.5	110	-19	241
SO 0530	5	30	97.4	11.5	106	-18	254
SO 0540	5	40	139.3	14.5	103	-18	256

S-OIL GREASE MP/EP

Multipurpose Extreme Pressure Grease

SPECIFICATIONS

KS M 2130 , ISO LXBCDA (S-OIL GREASE MP)

ISO LXBCFB (S-OIL GREASE EP)



APPLICATIONS

- S-OIL GREASE MP is a true multipurpose lubricant grease used in automotive and general industrial applications except on high-load or shock-loading applications, formulated to offer the best lubrication performance within - 20°C ~ 130°C.
- S-OIL GREASE EP is a multipurpose extreme pressure lithium grease extensively used for industrial applications, including high-load and high-shocking automotive and marine applications.
- S-OIL GREASE EP 000, 00 and 0 are formulated primarily for intensive greasing applications on transfer pump onboard concrete pump car.

ADVANTAGES

- Excellent mechanical stability and shear stability minimizes penetration variation even after rigorous operation.
- Excellent oxidation stability prevents hardening or deposition even in continued use at high temperature or long-term storage.
- S-OIL GREASE EP contains a special extreme pressure additive, which improves load-bearing performance significantly and prevents disruption of the lubrication film even when subject to shock loads.
- Formulated specifically to provide sufficient resistant against washout caused by contact with moisture, preventing corrosion of the bearing surface because of mixing of water.

CHARACTERISTICS

TEST ITEMS	METHOD	UNIT	S-OIL GREASE MP			S-OIL GREASE EP					
			0	2	3	000	00	0	1	2	3
NLGI grade	ASTM D217	-	0	2	3	000	00	0	1	2	3
TEXTURE	-	-	Smooth			Smooth					
Color	ASTM D1500	-	Brown			Dark Brown					
Penetration 25°C	ASTM D217	0.1 mm	385	278	237	450	416	370	317	276	238
Copper corrosion 100°C X 24 Hr	ASTM D130	-	1a	1a	1a	1a	1a	1a	1a	1a	1a
Dropping point	IP396/DIN ISO 2176	°C	190	216	219	137	171	189	201	217	219



S-OIL GREASE SUPER EP

Multipurpose Lithium Grease



APPLICATIONS

- S-OIL GREASE SUPER EP is a multipurpose grease thickened with lithium soap thickener and refined mineral base oil.
- It has outstanding water resistance and corrosion protection.
- S-OIL GREASE SUPER EP is well suited for multipurpose lubrication.

ADVANTAGES

- Lubrication for ball bearings in automotive and general industrial uses.

USEFUL TEMPERTURE

-30 ~ 140 °C

CHARACTERISTIC

TEST ITEMS	METHOD	UNIT	S-OIL GREASE EP
NLGI grade	ASTM D217	-	2
TEXTURE	-	-	Smooth
Color	ASTM D1500	-	Pale Brown
Penetration 25°C	ASTM D217	0.1mm	285
Copper corrosion 100°C X 24 Hr	ASTM D130	-	1a
Dropping point	IP 396/DIN ISO 2176	°C	220

S-OIL GREASE MOLY

Multipurpose Extreme Pressure lithium Grease
With Molybdenum Disulfide



APPLICATIONS

- S-OIL GREASE MOLY is a true multipurpose grease, formulated for lubrication of various shock loaded or vibrating applications in transport, agriculture and off road equipment, operating in wet, dusty and/or dry conditions.
- S-OIL GREASE MOLY is suitable for boundary lubrication at high pressures and high temperatures. In case of accidental overheating, the presence of molybdenum disulfide will guarantee good lubrication, and avoid any jamming or sticking.
- S-OIL GREASE MOLY always avoid contamination of the grease by dust and/or dirt when applying, preferably use a pneumatic pump system or cartridges.

ADVANTAGES

- S-OIL GREASE MOLY forms a durable lubrication film, resulting in reduction of maintenance and down-time costs.
- Miscible with most other conventional soap greases
- Excellent mechanical stability avoiding ejection or loss of consistency during operation.
- Excellent adhesion to metal.
- Good thermal stability, leading to high resistance to temperature variations.
- S-OIL GREASE MOLY does not contain lead, or other heavy metals considered harmful to human health and the environment.

SPECIFICATION

ISO 6743-9: LXBCEB 1, LXBCEB 2, DIN 51 502: MP1K-30, MP2K-25

CHARACTERISTIC

TEST ITEMS	METHOD	UNIT	S-OIL GREASE MOLY
NLGI grade	ASTM D217	-	2
TEXTURE	-	-	Smooth
Color	ASTM D1500	-	Gray
Operating Temperature	-	°C	-25 ~ 130
Penetration 25°C	ASTM D217	0.1mm	276
4-Ball Weld Load	ASTM D2596	kgf	400
Copper corrosion 100°C X 24 Hr	ASTM D130	-	1a
Dropping point	IP 396/DIN ISO 2176	°C	>190



S-OIL GREASE HT

Lithium Complex Wheel Bearing Grease



APPLICATIONS

- S-OIL GREASE HT is a premium high-speed, thermal-resistant grease formulated for automotive wheel bearings, using lithium complex-based thickener, refined mineral oil, and various additives.
- For automotive (passenger/commercial vehicles) wheel bearings.
- For high-temperature, high-speed bearing lubrication of general industrial machinery.

ADVANTAGES

- Excellent lubrication performance at high temperatures for thermal resistance and mechanical stability of the lithium complex thickener, avoiding ejection or loss of consistency when used in high-speed wheel bearings for a long time.
- Excellent water resistance, resulting in less water washout in conditions where frequent contact with moisture is expected.
- Excellent resistance against wear and load, minimizing the bearing wear under high load thus guaranteeing lubrication for a long time.
- Compatible with synthetic resins, preventing damage to synthetic resin-based sealing materials even under long-term contact with it.

SPECIFICATION

ISO 6743-9:L-XCFIB 2, DIN 51 502:KP2R-30

CHARACTERISTIC

TEST ITEMS	METHOD	UNIT	S-OIL GREASE HT 2	S-OIL GREASE HT 3
NLGI grade	ASTM D217	-	2	3
TEXTURE	-	-	Smooth/Buttery	Smooth/Buttery
Color	ASTM D1500	-	Amber	Amber
Operating Temperature	-	°C	-30 ~ 200	-30 ~ 200
Penetration 25°C	ASTM D217	0.1mm	280	235
4-Ball Weld Load	ASTM D2596	kgf	>250	>250
Dropping point	IP 396/DIN ISO 2176	°C	265	260

S-OIL GREASE LT

Low Temperature Lithium Grease



APPLICATIONS

- S-OIL GREASE LT is made from mixed base oil and lithium soap thickener.
- It has excellent performance of low temperature and water resistance.
- S-OIL GREASE LT works well for automotive body lubrication where excellent low temperature performance is required.

ADVANTAGES

- Lubrication for automobile parts such as body, chassis, motor bearings and window regulator.

USEFUL TEMPERTURE

-40 ~ 150 °C

CHARACTERISTIC

TEST ITEMS	METHOD	UNIT	S-OIL GREASE MP
NLGI grade	ASTM D217	-	2
TEXTURE	-	-	Smooth
Color	ASTM D1500	-	Pale Brown
Penetration 25°C	ASTM D217	0.1mm	281
Copper corrosion 100°C X 24 Hr	ASTM D130	-	1a
Dropping point	IP 396/DIN ISO 2176	°C	230

CERTIFICATE

Mercedez Benz



Volkswagen



VOLVO



Ford



JALOS



Porsche



Cummins



General Motors



General Motors



MAN Truck & Bus



MAN Truck & Bus



MAN Truck & Bus



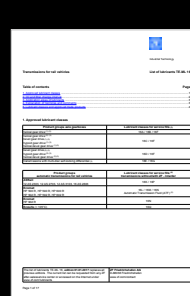
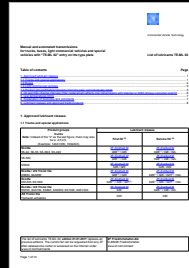
MAN Truck & Bus



MAN Truck & Bus



ZF



ZF



Allison



NMMA



POSCO



HKMC



MAN Marine



Daimler Chrysler



Carbon Trust Standard



Environmental Certificate



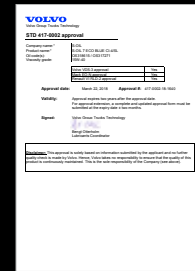
Korean Standard



AMECA



Volvo, Mack, Renault



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2024

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