



SOLAR®
LUBRICANTS

Company Profile

SOLAR LUBRICANTS MANUFACTURING L.L.C is one of the premier renowned lubricant and grease manufacturer with A.P.I approvals and ISO CERTIFIED (Quality Management Systems) in U.A.E, since 1991.

We are manufacturing quality automotive and industrial lubricants of different SAE grades and meeting standards of A.P.I as per O.E.M specifications. We provide all types of packing options and sizes to meet our customers' specific requirements.

Being manufacturers of lubricant oils and greases, we ensure that we maintain our quality by using high quality base oils and using the best of additives to make the perfect blended lubricants suitable for the world across the continents i.e. Europe, America, Australia, Gulf countries, Asia and Africa.

SOLAR LUBRICANTS MANUFACTURING L.L.C aims to be the global player in pursuance to its objectives. It is committed to maintain world class quality standards, efficient delivery schedules, competitive prices and excellent after sales services. The organization enjoys the trust of a wide clientele spread over many countries that includes countries in North America, Europe, Asia Pacific and whole MENA region.

PERFECTION DOES NOT BEGIN AT THE MANUFACTURING PLANT, IT BEGINS IN THE MIND. It is a challenge that **SOLAR LUBRICANTS MANUFACTURING L.L.C** has overcome through diligence and discipline and by encouraging its staff to develop a sense of pride in their jobs and offering personalized trainings and customer services.



Certificate



Certificate



SOLAR LUBRICANTS

BRANDS AND PACKINGS

Our PACKING FOR LUBRICANTS:
1L, 2L, 3L, 4L, 5L, 20L, 25L, 30L, 208L

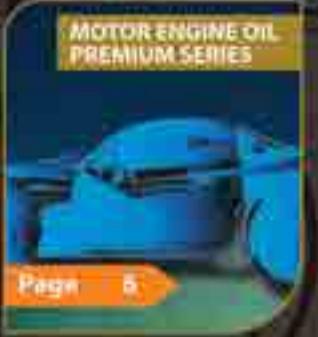
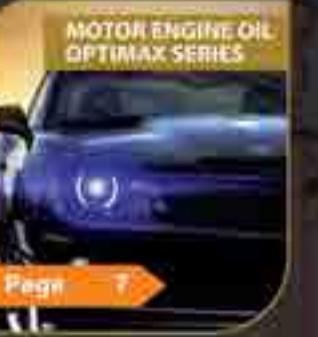
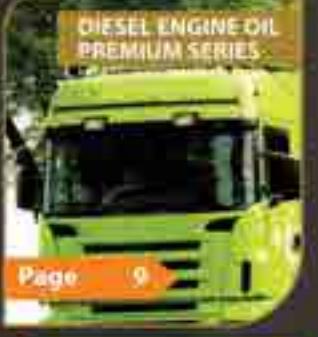
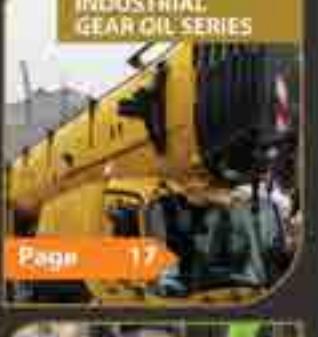
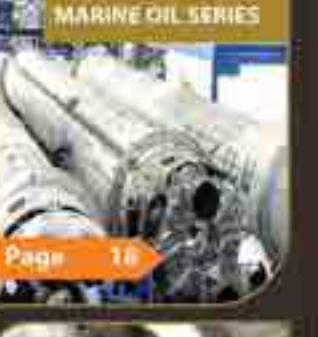
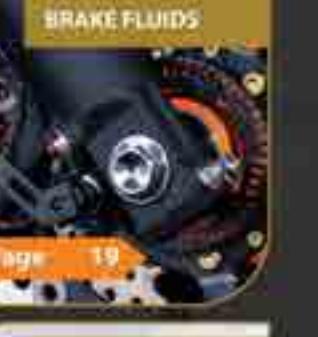
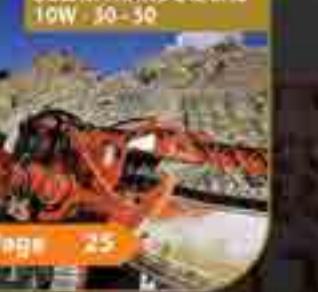
For GREASES:
500gm, 1Kg, 3Kg, 5Kg, 15Kg, 180Kg

For BRAKE FLUIDS:
200gm, 250gm, 250ml, 500gm, 500ml

Our BRANDS



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MOTOR ENGINE OIL – PREMIUM SERIES

Product Description:

A premium quality lubricant designed to provide improved high temperature deposit protection for pistons, more stringent sludge control and seal compatibility. It features combination of latest additive technology and low shear rate viscosity modifiers, ensuring highest level of protection against wear, oxidation and corrosion. The use of friction modifiers and load bearing agents help deliver improved fuel economy in latest turbo and non-turbo petrol engines. It can be used in most modern European, American and Japanese cars.

Application:

- Can be used in all fuel based petrol engines including:
- Multi-valve, multi-cam naturally aspirated, supercharged and turbocharged engines.
- Most advanced European, American and Japanese cars.

Features & Benefits:

- Reduced oil consumption and exhaust emissions.
- Improved fuel economy.
- Outstanding thermal stability and oxidation resistance.
- Brilliant low temperature soot control and deposit control.
- Exceptional protection against wear, corrosion.
- Excellent low temperature performance.

Specifications & Approvals:

- API SN/CF
- Available in fully synthetic, synthetic blends and mineral categories.

Typical Characteristics:

Properties	Values		
SAE GRADE	0W20	5W30	10W40
Type	Mineral	Mineral	Mineral
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.850	0.850	0.860
Flash Point °C	214	216	218
Pour Point °C	-42	-39	-38
Viscosity @40 °C, cSt	45.66	63.32	87.15
Viscosity @100 °C, cSt	7.84	10.13	13.05
Viscosity Index	142	147	152
Total Base No. mg KOH/g	6.0–7.0	6.0–7.0	6.0–7.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





MOTOR ENGINE OIL – OPTIMAX SERIES

Product Description

Formulated with high quality base stock and advanced additive technology to provide outstanding protection against wear, oxidation and corrosion for cars automotive engines from year 2010 and before. Key strengths include high mileage, extended drain interval due to the use of high SSI viscosity modifiers and better oil consumption in older vehicles. It is suitable for naturally aspirated or turbocharged petrol engines and is an all season oil delivering optimum performance under extreme operating conditions.

Application:

- Can be used in all land based petrol engines including:
- Naturally aspirated, supercharged and turbocharged engines
- Passenger cars, SUVs and vans
- Light duty diesel engines

Features & Benefits:

- Superior resistance to thermal degradation.
- Improved engine cleanliness and deposit control.
- Exceptional protection against wear, corrosion.
- Brilliant low temperature soot control.
- Exceptional protection against wear, corrosion.
- Excellent low temperature performance.

Specifications & Approvals:

- API SM/CF – SL/CF – SM – SL
- Available in fully synthetic, synthetic blends and mineral categories.

Typical Characteristics:

Properties	Values		
SAE GRADE	10W30 15W40 20W50		
Type	Fully Synthetic	Mineral	Mineral
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.860	0.865	0.88
Flash Point °C	216	222	226
Pour Point °C	-30	-30	-24
Viscosity @40 °C, cSt	66.15	109.4	172.05
Viscosity @100 °C, cSt	10.5	14.20	18.50
Viscosity Index	148	132	121
Total Base No, mg KOH/g	6.0 – 8.0	6.0 – 8.0	6.0 – 8.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





MOTOR ENGINE OIL – CLASSIC SERIES

Product Description:

Superior quality mono grade / multi grade engines oils formulated with carefully selected performance additives and blended in high quality base stock to achieve a wide range of API grades and SAE standards. These oils ensure easy cold start and fuel economics due to their high fluidity at low temperatures and very resistant oil film at high temperatures. Recommended for gasoline engines both naturally aspirated and turbocharged.

Application:

Can be used in the following:

- All gasoline engines, cars and light vans.
- Light duty diesel engines.

Features & Benefits:

- High level of detergency and dispersancy minimizes sludge formation leading to cleaner engines.
- Good thermal stability and oxidation resistance preventing any premature damage at high temperatures.
- Reduced internal friction leading to improved fuel economy.
- Shear stability ensuring satisfactory lubrication in service, both hot and cold.

Specifications & Approvals:

- API SB/CB – SC/CC – SF/CD – SJ/CF – SJ/CF-4
- Available in synthetic blends and mineral categories.
- Available in both mono-grade and multi-grade formulations.

Typical Characteristics:

Properties	Values			
SAE GRADE	SAE 40	SAE 50	SAE 15W40	SAE 20W50
Type	Mineral	Mineral	Mineral	Mineral
Appearance	Bright & Clear	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.882	0.885	0.875	0.88
Flash Point °C	238	246	220	224
Pour Point °C	-18	-15	-30	-24
Viscosity @40 °C, cSt	169	232	109	170
Viscosity @100 °C, cSt	15.5	20	14.5	18.25
Viscosity Index	99	99	136	120
Total Base No. mg KOH/g	4.0 – 8.0	4.0 – 8.0	4.0 – 8.0	4.0 – 8.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.



DIESEL ENGINE OIL – PREMIUM SERIES

Product Description

A premium diesel engine lubricant recommended for on and off-highway vehicles, providing excellent lubrication and extending engine life. Formulated with state of the art additive technology to meet modern high output low emission standards for diesel engines and exhibiting excellent soot handling properties, reduced oil and fuel consumption, extended oil interval and prolonged engine life.

Application:

API CI-4 PLUS was developed to improve engine reliability fitted with exhaust gas recirculation (EGR) system in place and intended for use with diesel fuels ranging in sulfur content up to 0.5% weight.

Recommended for all modern diesel engines fitted with fitted with latest generation after treatment devices.

- Can be used in all land based diesel engines including.
- Diesel powered large trucks and buses.
- Light duty diesel cars, vans and buses.
- Diesel powered construction machinery.
- Naturally aspirated and turbocharged diesel engines.

Features & Benefits:

- Excellent thermal and oxidation stability.
- Improved anti-wear and anticorrosion protection.
- Better soot handling capability allowing for extended drain interval.
- High TBN reserve means better deposit control and acid neutralization.
- Excellent low temperature performance ensuring better wear protection at start-up.

Specifications & Approvals:

CK4, CJ-4 and CI-4 PLUS.

Available in fully synthetic, synthetic blends and mineral categories.

Typical Characteristics

Properties	Values		
SAE GRADE	10W40	15W40	20W50
Type	Synthetic Blend	Synthetic Blend	Mineral
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.865	0.865	0.88
Flash Point °C	226	230	236
Pour Point °C	-36	-30	-27
Viscosity @40 °C, cSt	101.5	119.05	167.4
Viscosity @100 °C, cSt	14.10	15.10	18.25
Viscosity Index	142	132	122
Total Base No, mg KOH/g	10.0-12.0	10.0-12.0	10.0-12.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





DIESEL ENGINE OIL - OPTIMA SERIES

Product Description

A high grade lubricant developed for high speed, four-stroke engines to meet 2004 exhaust emission standards implemented in 2002. Formulated with advanced additive technology, it provides excellent all weather protection and controls the emissions in high speed engines.

Applications

API CI-4 was developed to improve engine reliability fitted with exhaust gas recirculation (EGR) system in place and intended for use with diesel fuel ranging in sulfur content up to 0.5% weight. The engine oil can provide improved anti-wear and corrosion protection, high temperature oxidation stability, and soot control that modern low-emission engines require.

Can be used in all land based diesel engines including:

- Diesel powered large trucks and buses.
- Light duty diesel cars, vans and buses.
- Diesel powered construction machinery.
- Naturally aspirated and turbocharged diesel engines.

Features & Benefits

- High thermal and oxidation stability.
- Proven metalo-organic anti-wear additive system protects engines under all operating conditions.
- Excellent soot handling capability allowing for extended drain interval.
- Optimum performance over a wide range of operating conditions.
- Very good detergency and dispersancy ability to keep the engine clean and efficient control of sludge and soot deposits.

Specifications & Approvals

CI-4, CH-4

Available in fully synthetic, synthetic blends and mineral categories.

Typical Characteristics

Properties	Values	Values	Values
SAE GRADE	10W40	15W40	50
Type	Synthetic Blend	Synthetic Blend	Mineral
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.856	0.865	0.865
Flash Point °C	222	230	246
Pour Point °C	-36	-27	-12
Viscosity @40 °C, cSt	101.8	119.05	238
Viscosity @100 °C, cSt	14.58	15.10	10.5
Viscosity Index	142	132	86
Total Base No. mg KOH/g	10.0 - 12.0	10.0 - 12.0	10.0 - 12.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





DIESEL ENGINE OIL – CLASSIC SERIES

Product Description

A supreme quality engine oil, suitable for mixed fleet use in naturally aspirated, turbo charged diesel engines in trucks and off highway vehicles, including the latest European high performance diesel engines. These oils are specially formulated to provide excellent service stability, detergency and dispersancy level limiting oil thickening due to soot. These oils have very good antioxidant, antirust and anticorrosion properties. These oils are manufactured to a wide range of API levels and SAE standards.

Application:

- Can be used in all land based diesel engines including:
- Diesel engines whether turbo charged or normally aspirated operating in highway and off highway applications.
- Low and high mileage diesel applications such as delivery vans, trucks, fleet urban transport, construction and agricultural.

Features & Benefits

- The additive technology consisting of antirust and anti-wear additives gives extended engine life.
- Substantial fuel saving.
- Outstanding thermal stability and oxidation resistance.
- Optimum performance over a wide range of operating conditions.
- Excellent dispersancy to keep soot suspended, preventing oil thickening and protecting against liner polishing.

Specifications & Approvals

API CB/SB – CC/SC – CD/SF – CF/SF – CF-4/SJ

Available in synthetic blends and mineral categories.

Typical Characteristics

Properties	Values				
SAE GRADE	40	50	15W40	20W50	20W50
Type	Mineral	Mineral	Mineral	Mineral	Mineral
Appearance	Bright & Clear				
Specific Gravity @15°C	0.882	0.855	0.875	0.88	0.885
Flash Point °C	240	246	220	226	232
Pour Point °C	-18	-15	-30	-24	-24
Viscosity @40 °C, cSt	150	220	109.4	174.7	256
Viscosity @100 °C, cSt	15.5	20	14.2	18.8	24.25
Viscosity Index	100	85	132	122	120
Total Base No, mg KOH/g	6.0 – 10.0	6.0 – 10.0	6.0 – 10.0	6.0 – 10.0	6.0 – 10.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





MOTOR CYCLE ENGINE OIL – JASO MA

Product Description

A non-friction modified 4-stroke engine oil designed for use in motorbikes of all varieties i.e. sports, road, dirt bikes etc. It is formulated from highly refined base stock and advanced additive package system to provide high level protection against wear, sludge and piston deposits. It also ensures excellent clutch performance and its excellent low weather performance guarantees protection during engine start up. Suitable for 4-stroke gasoline engines turbocharged or naturally aspirated.

Application:

Can be used in the following:

- Road and sports bikes.
- 4-stroke stationary engines and generators.

Features & Benefits:

- High level of detergency and dispersancy minimizes sludge formation leading to cleaner engines.
- Good thermal stability and oxidation resistance preventing any premature damage at high temperatures.
- Maximum power and acceleration.
- Shear stability ensuring satisfactory lubrication in service, both hot and cold.

Specifications & Approvals:

- API SM, SL
- JASO MA
- Available in fully synthetic, synthetic blend and mineral categories.

Typical Characteristics

Properties	Values		
SAE GRADE	10W40 20W40 20W50		
Type	Synthetic Blend Mineral Mineral		
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.865	0.885	0.88
Flash Point °C	222	226	230
Pour Point °C	-36	-24	-24
Viscosity @40 °C, cSt	89.0	124.3	170
Viscosity @100 °C, cSt	13.8	14.5	18.25
Viscosity Index	160	118	120
Total Base No., mg KOH/g	6.0 – 8.0	8.0 – 8.0	8.0 – 8.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





AIR COOLED 2-STROKE ENGINE OIL

Product Description:

A special lubricant designed for use in air-cooled 2-stroke engine oils like lawn mowers, motorcycles and air cooled outboard engines. Formulated from highly refined base oils and low-ash additive package resulting in reduced spark plug buildup and exceptional anti-scuff protection. It has excellent detergency, dispersancy and anti-oxidation properties to protect against piston ring sticking and deposits at high operating temperatures.

Application:

- Chainsaws, brush cutters, lawn mowers.
- Motorcycles and air cooled outboard engines.

Features & Benefits:

- Exceptional protection from piston and exhaust deposits.
- Better resistance to thermal and oxidation breakdown.
- Excellent protection against rust.
- Low smoke engine performance.

Specifications & Approvals:

- API TC
- JASO FD
- Mix as per engine manufacturer's recommendation.

Typical Characteristics:

Properties	Values
SAE GRADE	SAE 20
Appearance	Bright & Clear
Specific Gravity @15°C	0.87
Flash Point °C	120
Pour Point °C	-27
Viscosity @40 °C, cSt	55.7
Viscosity @100 °C, cSt	7.95
Viscosity Index	110

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





OUTBOARD ENGINE OIL 2-STROKE

Product Description:

A special lubricant formulated for use in water-cooled 2-stroke outboard engines. Formulated from highly refined base oil and ash less additive package resulting in low smoke engine oil that can be used in oil injected and pre-mix systems. It has excellent dispersancy, anti-oxidation and anti-rust properties making it ideal to deal with challenges faced by water-cooled engines.

Application:

- Water cooled 2-stroke outboard and marine engines.

Features & Benefits:

- High levels of dispersant additives helps control deposit formation.
- Better resistance to thermal and oxidation breakdown.
- Excellent protection against rust.
- Ashless additive system preventing spark plug fouling.
- Superior resistance to evaporation ensuring prolonged lubrication to piston and cylinder.

Specifications & Approvals:

- API TCW-III
- Recommended fuel/oil ratio from 50:1 up to 100:1 (mix as per engine manufacturer's recommendation.)

Typical Characteristics:

Properties	Values
SAE GRADE	SAE 20
Appearance	Dark Blue
Specific Gravity @15°C	0.885
Flash Point °C	100
Pour Point °C	-27
Viscosity @40 °C, cSt	59.05
Viscosity @100 °C, cSt	8.1
Viscosity Index	105

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





AUTOMATIC TRANSMISSION FLUID – DEX III

Product Description:

ATF is low viscosity oil with a high viscosity index, designed for use in transmissions where DEXRON III or DEXRON II fluids have been specified. It is manufactured from the latest additive technology and advanced hydrocracked base oils along with a viscosity modifier to minimize shear loss and provide outstanding performance throughout the life of the fluid. It is available in red color, is compatible with seals and has no effect on nonferrous metals like copper or alloys.

Application:

- Automatic transmissions requiring DEX III and DEX II fluids.
- Power steering systems.
- Hydrostatic transmissions, hydraulic clutches.

Features & Benefits:

- Superior wear protection
- Excellent resistance to oxidation and deposit formation.
- Compatible with wide range of seal material.
- Smooth gear change.
- Improved fuel economy and power transmission.



AUTOMATIC TRANSMISSION FLUID – TYPE A

Product Description:

A mineral based transmission fluid for classic and older transmissions that require TYPE A or DEX II fluids. Manufactured from new generation additive technology in highly stable mineral base oils to deliver improved transmission durability, shift performance and minimized transmission shudder.

Application:

- Older transmissions that require TYPE A or DEX II.
- Power steering systems.

Features & Benefits:

- Designed exclusively for older transmissions.
- Excellent resistance to oxidation and deposit formation.
- Compatible with wide range of seal material.
- Smooth gear change.
- Superior protection against rust and corrosion.



Typical Characteristics:

Properties	Values		
Category	TYPE A	DEX - II	DEX - III
SAE GRADE	20	20	20
Appearance	RED	RED	RED
Specific Gravity @15°C.	0.850	0.850	0.845
Flash Point °C	200	200	200
Pour Point °C	-30	-39	-45
Viscosity @40 °C, cSt	40.5	39	38.9
Viscosity @100 °C, cSt	7.5	7.5	7.75
Viscosity Index	175	163	174

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





MANUAL AUTOMOTIVE GEAR OIL SERIES

Product Description:

These are high quality lubricants catering to manual transmission requirements in most passenger cars and light trucks. They are blended from highly refined base stock and EP additives to offer maximum protection to gear boxes and differentials. They offer optimum protection against wear and scoring and high quality base oils make sure extended drain intervals ensuring prolonged protection and reduced oil consumption.

Application:

- Can be used in all land based petrol engines including:
- Mechanical transmission systems operating in severe conditions.
- Gear boxes and differentials of majority of passenger cars, light trucks, heavy trucks and off-road equipment.

Features & Benefits:

- Excellent extreme pressure and anti-wear properties.
- Optimized lubrication and protection of hypoid and non-hypoid axles.
- Outstanding thermal stability and oxidation resistance.
- Carefully designed frictional properties with base components selected to reduce fuel consumption.
- Longer drain intervals.
- Excellent low temperature performance.

Specifications & Approvals:

- API GL4 / GL5
- Available in fully synthetic, synthetic blends and mineral categories.

Typical Characteristics:

Properties	Villiers			
SAE GRADE	90	140	80W90	85W140
Type	Mineral	Mineral	Mineral	Mineral
Appearance	Bright & Clear	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @15°C	0.880	0.895	0.888	0.896
Flash Point °C	220	232	222	230
Pour Point °C	-15	-12	-15	-12
Viscosity @40°C, cSt	187.7	398	178.8	364.4
Viscosity @100°C, cSt	16.5	25.3	17.05	27.0
Viscosity Index	92	82	102	102

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





INDUSTRIAL GEAR OIL SERIES

Product Description:

These are high quality range of industrial gear oils blended from highly refined virgin base oils and selected sulphur-phosphorus extreme pressure anti-wear additives. They find their use in all types of industrial gear boxes including crushers, machine tools and lathes. With outstanding thermal and oxidation stability they provide excellent protection against wear and corrosion for prolonged periods. Furthermore they have demonstrated excellent demulsibility and anti-foaming properties ensuring extended oil life and reduced oil consumption.

Application:

- Industrial gear boxes in crushers, conveyors, hoists, machine tools.
- Mining applications where mild EP gear oil is specified.
- May be used in chain drives and slide guides.

Features & Benefits:

- Excellent oxidation and thermal stability.
- Superior protection against wear, rust, corrosion and foaming.
- Provides good water separation.
- Extended oil life and reduced consumption.

Typical Characteristics:

Properties	Values	Values	Values	Values	Values
ISO GRADE	68	100	220	320	460
Appearance	Bright & Clear				
Specific Gravity @15°C	0.875	0.885	0.885	0.895	0.898
Flash Point °C	218	236	248	260	260
Pour Point °C	-27	-16	-12	-12	-8
Viscosity @40 °C, cSt	68	100	220	320	460
Viscosity @100 °C, cSt	8.97	14.61	18.56	23.18	29.25
Viscosity Index	105	85	93	90	90

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





MARINE OIL SERIES

Marine Cylinder Lubricant

A high performance cylinder lubricant designed for modern low-speed 2-stroke marine Diesel engines using high sulfur residual fuels with its content in excess of 1%. This oil possesses outstanding acid neutralization capacity and its high BN (base number) ensures prolonged protection against corrosion from sulfuric acid. It is available in SAE 50 viscosity grade with BN 70.

Application:

- Low speed crosshead marine diesel engines.
- All two stroke engines operating on high sulfur fuels.

Features & Benefits:

- Exceptional anti-wear properties ensuring protection against cylinder liner and piston ring wear.
- Superior acid neutralization capacity.
- Optimum performance under severe loading conditions.
- Excellent detergent and dispersancy properties minimizing deposit formation on critical parts.

TRUNK PISTON ENGINE OIL

A high performance diesel engine oil designed for medium-speed marine diesel engines running on intermediate or heavy fuel oil with sulfur contents up to 4.5%. Blended from high quality base oil and superior additive technology, this oil provides outstanding protection against wear and exceptional engine cleanliness. It has also demonstrated excellent water separation and base number retention properties. Available in API level CF in various viscosity grades and BN.

Application:

- Medium speed diesel engines in both marine and stationary applications.
- Trunk piston diesel engines burning high sulfur containing residual fuels.

Features & Benefits:

- Exceptional anti-wear properties ensuring protection against cylinder liner and piston ring wear.
- Superior acid neutralization capacity.
- Optimum performance under severe loading conditions.
- Excellent detergent and dispersancy properties minimizing deposit formation on critical parts.
- Excellent demulsibility properties and water tolerance.
- Superior base number retention properties.

Typical Characteristics:

Properties		Values					
Category		Trunk Piston Engine Oils			Cylinder Oil		
Product ID	3030	4030	3040	4040	3055	4055	5070
SAE GRADE	30	40	30	40	30	40	50
Type	Mineral	Mineral	Mineral	Mineral	Mineral	Mineral	Mineral
Appearance	B&C	B&C	B&C	B&C	B&C	B&C	B&C
Specific Gravity @15°C	0.882	0.885	0.882	0.888	0.885	0.888	0.885
Flash Point °C	-215	-215	-215	-215	-215	-215	-225
Pour Point °C	-15	-12	-15	-12	-15	-12	-9
Viscosity @40 °C, cSt	100.55	144.85	101.35	146.15	102.2	147.5	247.65
Viscosity @100 °C, cSt	11.25	14.25	11.25	14.25	11.25	14.25	19.0
Viscosity Index	98	96	97	95	96	94	90

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





Brake Fluids

Brake Fluids are formulated from specially selected synthetic fluids with high dry and wet boiling points adjusted to high temperatures encountered in braking systems preventing vapor lock. These fluid provides protection for metals and used in the braking system such as cast iron, aluminum, steel, copper, brass, etc. compatible with rubber seals and hoses recommended for all passenger cars, trucks, buses and heavy duty vehicles where the manufacturer recommends the use of DOT 3 - DOT 4 fluids.

Application:

- Particularly suitable for brake circuits in very severe conditions.
- Recommended for all brake circuits, where the manufacturer requires synthetic fluid.
- These fluid meets and Exceeds SAE J1703, FMVSS TT6 (DOT 3) and SAEJ1704 FMVSS (DOT 4).

Advantages:

- This Synthetic fluid has high dry and wet boiling points adjusted to high temperatures encountered in braking systems preventing vapor lock.
- Resistance and moisture absorption.
- Viscosity suitable for hot and cold temperatures.
- Provides protection to all metals in the braking system and compatible with rubber seals and hoses.

Specifications:

GRADE BRAKE FLUIDS	DOT3	DOT4
DENSITY AT 20 °C KG/L	1.050-1.080	1.050-1.10
VISCOSITY @ -40 °C CST	<1500	<1500
VISCOSITY @ 100 °C CST	>1.5	>1.5
REFLUX BOILING POINT °C	215 MIN	240 MIN
WET EQUILIBRIUM REFLUX BOILING POINT °C	140 MIN	160 MIN
Pb @ 20 °C	7.5-11.5	7.5-11.5
WATER % WIW	0.05 MAX	0.05 MAX





COOLANTS

Product Description:

A long life glycol based liquid fortified with high quality corrosion inhibitors and carefully selected additives package to provide protection to automotive cooling system. This coolant is available in various concentrations and is free of amines, nitrates and phosphates.

Application:

- Recommended for all internal combustion engines in cars, trucks, agricultural and constructional machinery equipment.

Features & Benefits:

- Provides lasting protection against freezing and corrosion in cooling circuits.
- Excellent cooling provides improved reliability and reduced maintenance.
- Excellent antifoam properties.
- Compatible with rubber seals, gaskets hoses.
- Reduced rate of additive depletion ensuring prolonged protection and drain interval.

Typical Characteristics:

Parameters	Values	Values	Values
Grade	40%	50%	60%
Appearance	Green	Red	Green
Specific Gravity @ 20°C	1.06	1.08	1.09
Boiling Point °C	104	107	111
Freezing Point °C	-23.5	-37	-53
MEG% W/W	40	50	60
pH	7.1	7.5	7.5

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





Greases

A high quality, semisolid lubricant that shows appreciable resistance to water and protects against corrosion. The product which is available with Calcium and Lithium soaps can be applied with a grease gun or by automatic dispensing equipment. This product is suitable to resolve the problems of lubricating system operating under the severe loads, temperature constraints and even in the presence of water. It is recommended for long lasting and high performance in lubrication of all types of bearing operating at low to moderate speed even under relatively high loads.

Application:

- Recommended for lubrication of various applications in all types of operating conditions, particularly where the operating temperature ranges between -20°C up to 120°C.
- Suitable for all kinds of bearing, joints water pumps, gears etc. when the temperatures and loading conditions are normal and requiring a long lasting high performance.

Advantages:

- Multi purpose grease performs well at low and high temperature.
- Excellent performance even in presence of water, high adhesion properties enables it to withstand washout by water.
- Excellent anti-oxidation and anti-corrosion properties with calcium / lithium sulfonates contributes to limiting breakdown, increase life time of equipment, reducing expenditure on replacement of part thereby improving productivity.

Specifications:

PROPERTIES	SAE GRADE	MP GREASE	EP GREASE			
NLGI GRADE	2	1	2	3	2	3
SOAP TYPE	Calcium	Calcium	Lithium / Lithium	Lithium	Lithium	
DROPPING POINT (°C)	98	98	195	200	197	200
PENETRATION @ 25°C 60 STROKES	275	230	230	235	280	235

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





INDUSTRIAL HYDRAULIC SERIES

Product Description:

These fluids are designed for use in all kinds of hydraulic systems operating under most difficult conditions such as machine tools, presses, industrial and mobile equipment. It is formulated from selected base stock and advanced anti-wear additives to provide outstanding protection against wear, corrosion and inhibit oxidation in vane pumps and hydraulic pressure systems. Furthermore it works extremely well in extreme temperatures and pressures and has excellent demulsibility properties.

Application:

- Hydraulic systems using vane, piston or gear pumps.
- Hydraulic systems in earth moving equipment, forklifts, presses etc.

Features & Benefits:

- Excellent oxidation stability.
- Superior protection against wear, rust, corrosion and foaming.
- Provides good water separation.
- Excellent thermal stability and pump durability.

Typical Characteristics:

Properties	Values				
ISO GRADE	32	46	68	100	150
Appearance	Bright & Clear				
Specific Gravity @15°C	0.870	0.872	0.878	0.882	0.888
Flash Point °C	218	224	232	240	260
Pour Point °C	-38	-38	-24	-15	-12
Viscosity @40 °C, cSt	38.4	44.48	68.21	102.5	155
Viscosity @100 °C, cSt	5.18	6.53	8.35	11.1	14.49
Viscosity Index	97	95	93	91	90

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





NEAT CUTTING OIL

Product Description:

A mineral based non-soluble cutting oil with almost non-existent odour and fortified with extreme pressure additive system. It finds its use in heavy duty machine works such as deep hole drilling, thread cutting of carbon alloy and stainless steel. It also has excellent anti-rust, antifoaming and heat transfer properties and provides good surface finish.

Application:

- Deep hole drilling.
- Broaching.
- Thread cutting of carbon alloy and stainless steel.

Features & Benefits:

- Non staining on ferrous and nonferrous metals.
- Excellent surface finish.
- Chlorine and zinc free.
- Good heat removal and lubrication.
- Low viscosity and odor.

Typical Characteristics:

Properties	Values
ISO GRADE	32
Appearance	Bright & Clear
Specific Gravity @15°C	0.868
Flash Point °C	214
Pour Point °C	-14
Viscosity @40 °C, cSt	30.4
Viscosity @100 °C, cSt	5.25
Viscosity Index	110

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





SOLUBLE CUTTING OIL

Product Description:

A general purpose metal working fluid that serves both as a coolant and lubricant during metalworking operations. Blended from hydrotreated base oils, emulsifiers, bactericides and inhibitors to provide optimum protection against rust and corrosion as well as lubricity and cooling. It forms stable milky emulsion, has low odor and the bactericides helps resist biological degradation.

Application:

- General purpose cutting operations on low and medium tensile steels.
- Drilling, milling, threading and tapping operations.

Features & Benefits:

- Helps prevent rust and corrosion.
- Low odor.
- Chlorine free.
- Good heat removal and lubrication.
- High emulsion stability.
- Improves surface finish.

Typical Characteristics:

Properties	Values
Appearance	Bright & Clear
Specific Gravity @15°C	0.860
Flash Point °C	180
Viscosity @100 °C, cSt	6.05
Mixing Instructions	
Mixing Ratio (Water/Oil)	10:1
When mixing always add oil to water while stirring, not water to oil.	

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





SOLAR TRANS OIL SAE 10W - 30 - 50

Product Description:

A unique category of lubricant products developed for use in hydraulic systems, transmissions and final drives for heavy duty machinery used in construction and mining industry. These products have been developed for use in both newly developed as well as older drive train components. They are made using highly refined base oils and fortified with antiwear additives, corrosion inhibitor, detergent and dispersant additives that ensure maximum protection, prolonged equipment life and smooth operation.

Application:

These oils are recommended for use under following conditions:

- Hydraulic systems - SAE 10W
- Gearboxes - SAE 30
- Final drives - SAE 50

Features & Benefits:

- Excellent antiwear and anticorrosion properties.
- Good thermal stability and oxidation resistance preventing any premature damage at high temperatures.
- Exceptional frictional properties preventing clutch slippage and confirming smooth operation.

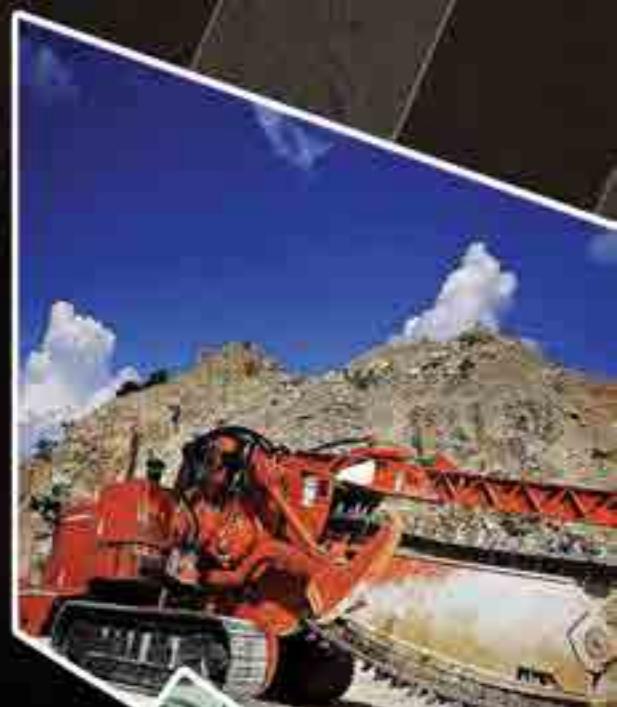
Typical Characteristics:

Properties	Values		
SAE GRADE	Mineral	30	50
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Specific Gravity @ 15 °C	0.871	0.885	0.898
Flash Point °C	215	238	248
Pour Point °C	-36	-24	-15
Viscosity@40 °C, cSt	59.10	110.4	244
Viscosity@100 °C, cSt	7.84	11.48	19.63
Viscosity Index	97	90	92
Total Base No, mg KOH/g	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0

Typical physical characteristics are given in the table. These are intended as a guide to the industry and are not necessarily manufacturing or marketing specifications.

Health & Safety:

Detailed health and safety information for this product is provided in a Material Safety Data Sheet which is available upon request.





SOLAR LUBRICANTS

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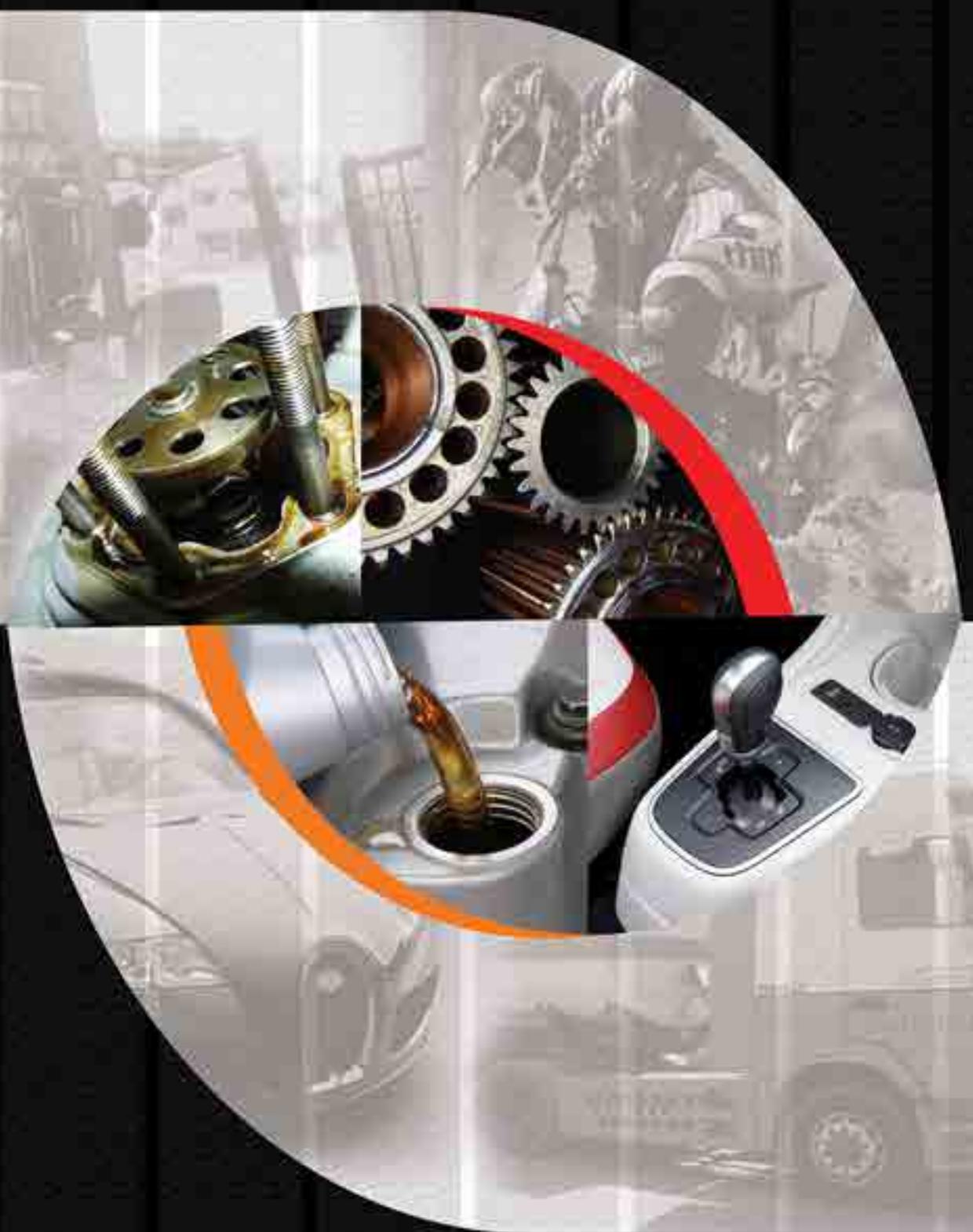
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