



エンジンオイル
Engine Oil



KOYOTO



eco

The product contribution to lowering emission and complies with stringent requirements of the latest environmental standard

Manufactured and filled in UAE

This lubricants is suitable for Korean, Japanese Vehicles
American and German cars

KOYOTO INDUSTRIAL CO., Ltd

INTRODUCTION

The past few decades has seen the UAE emerge as a business, financial and automotive powerhouse in the MEA region. The country has invested heavily in infrastructure and strived hard to build an investor friendly climate. It is to tap this tremendous potential that cants Ind. LLC was established in the year 2004.

Since then the company has grown from strength to strength and has established itself as an organization focused on quality, innovation and customer centricity. The company is a leading lubricant blender in the region, whose products are exported to more than 30 countries across Africa, Asia, Middle East, Far East & Europe regions and is an emerging force in the local lubricant market.

We have invested heavily in Research and Development and have state of the art testing laboratories. Our facilities are certified for ISO 9001-2015 quality management systems and approved by major OEM players such as Volvo, MAN, Porsche, VW, Renault, MB, Mack etc. Our products meet the highest standards of API, MIL, European and Japanese manufacturers which clearly indicates our commitment to quality.

We have continued to invest in human resources as we recognize that they are the drivers of innovation and change that this organization represents. Our employees represent the best talent and experience in the industry and they along with our progressive management strive hard each day to deliver better products and services to our customers.

We hope you would find this product catalog useful and together we can strive to reach greater heights and achieve mutually beneficial goals in the Lubricant market and beyond.

OUR PHILOSOPHY

In this highly competitive and volatile market, we strive to offer products and services which are unique and differentiate us from competition. We treat our clients as business partners and believe that in their success lies our growth. We continuously improve and enhance our offerings to stay a step ahead of the competition and deliver impeccable quality and value to our customers.

OUR FACILITIES

We have multiple state of the art facilities for blending and filling of lubricants, with an installed capacity of blending and filling of more than 40,000 MT of lubricants per annum, 16,000 MT of greases and 6,000 MT per annum of Viscosity Improvers. An indicator of our rigorous emphasis on quality is that our facilities are ISO 9001-2015 certified. Moreover, our Quality Assurance Laboratory is under process of pursuing ISO 17025 accreditation.

Our operations have a state of the art and one of the best R&D and testing lab in the region which help us innovate and ensure that our quality standards meet the best in the industry.

Our strategic blending and filling facilities are also present in key regions namely Kenya and India.





Product Description

Koyoto 0W20 SN series are advanced technology engine oils blended in high performance fully synthetic (PAO – polyalphaolefin) basestocks fortified with precisely balanced additive system, specifically to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for the latest downsized engines equipped with stop & start technologies and hybrid engines requiring an API SN specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

MEET SPECIFICATIONS AND REQUIREMENTS OF:

- API SN, SM, SL, SJ
- ILSAC GF-5, HONDA, TOYOTA,
- MITSUBISHI
- Ford WSS-M2C947-A
- General Motors dexos1

Product Description

Koyoto 5W-30 SN series is advanced technology engine oil blended in high performance synthetic basestocks fortified with precisely balanced additive system, specifically formulated to help deliver high level of performance and outstanding protection during long service intervals. to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline and diesel fueled automobiles and light duty trucks requiring an API SN specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

MEET SPECIFICATIONS AND REQUIREMENTS OF:

- API SN, SM, SL, SJ
- ILSAC GF-5
- Ford WSS-M2C945-A/WSS-M2C930-A
- General Motors dexos1



Product Description

Koyoto 5W-20 SN series is advanced technology engine oil blended in high performance synthetic basestocks fortified with precisely balanced additive system, specifically formulated to help deliver high level of performance and outstanding protection during long service intervals. to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline and diesel fueled automobiles and light duty trucks requiring an API SN specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

MEET SPECIFICATIONS AND REQUIREMENTS OF:

- API SN, SM, SL, SJ
- ILSAC GF-5
- Ford WSS-M2C945-A/WSS-M2C930-A
- General Motors dexos1



Product Description

Koyoto SAE 50 is a range of diesel engine oils formulated with high quality base stocks and selected additives to ensure optimum performance and protection for diesel engines requiring an API CF specification. Suitable for heavy duty, high output diesel engines where monograde oils are specified. It provides excellent protection in engines, against high temperature piston deposits, wear, corrosion and foaming under severe operating conditions.

MEET SPECIFICATIONS AND REQUIREMENTS OF:

- API CF, CD, SF
- MAN 270
- ACEA E2
- MTU Type-1
- Mercedes Benz 228.0
- Caterpillar TO-2

Product Description

Koyoto 15W-40 CH-4/SL diesel engine oil is formulated with high quality base stocks and specially selected additives to ensure optimum performance and protection for diesel engines requiring an API CH-4 specification. Suitable for modern and old diesel engines fitted on trucks, buses, construction or agricultural machinery with or without turbo charger, intercooler or sophisticated injection systems.

MEET SPECIFICATIONS AND REQUIREMENTS OF:

- API CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- CAT ECF-1a
- MAN M3275
- VOLVO VDS-2
- Deutz DQC –II-05
- MB 228.3
- MTU OIL Category-2
- MACK EO-M Plus
- CUMMINS CES 20076/7
- Renault RD-2



Product Description

Kyoto 10W-40 SN/CF series is designed with synthetic blend base stocks and advanced technology additive system to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline fueled automobiles and light duty trucks requiring an API SN/CF specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines and better oil consumption control in older vehicles where oil usage (burning) is an issue.

MEET SPECIFICATIONS AND REQUIREMENTS OF:

- API SN, SM, SL, SJ,CF
- ILSAC GF-4
- ACEA A3/B3, A3/B4
- MB 229.1 & Renault RN0700





KOYOTO 5W-20 SP

KOYOTO 5W-20 SP series are advanced technology engine oil blended in high performance fully synthetic basestocks fortified with precisely balanced additive system, specifically to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for the latest downsized engines equipped with stop & start technologies and hybrid engines requiring an API SP specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in the latest engine designs operating under severe conditions and protects against the potential for pre-ignition (LSPI) in these engines, including high-performance turbo-charged gasoline direct injection (TGI) and non TGI designs, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 5W-20 SP	Test Method	Units	5W-20	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.845	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	8.2	10.4	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	43.05	58.65	88.6
Viscosity Index	ASTM D 2270	-	169	169	168
Pour Point	ASTM D 97	°C	-39	-39	-39
Flash Point (COC)	ASTM D 92	°C	215	225	225
Total Base Number	ASTM D 2896	mg KOH/g	7.2	7.2	7.2
Phosphorous	ASTM D 4951	% wt	0.077	0.077	0.077
CCS Viscosity	ASTM D 5293	cP	5250 @ -30 °C	5600 @ -30 °C	5600 @ -30 °C

- API SP, SN Plus, SN, SM, SL, SJ (5W40 meets only this specs)
- General Motors dexos1 Gen2
- API SP Resource Conserving, SN Plus Resource Conserving, SN Resource Conserving
- ILSAC GF-6A, HONDA, TOYOTA, MITSUBISHI
- Ford WSS-M2C946-A/B1, WSS-M2C929-A (5W30 only)
- Ford WSS-M2C945-A/B1, WSS-M2C930-A (5W20 only)



KOYOTO 5W-30 SN

KOYOTO 5W-30 SN series is formulated with synthetic base stocks and advanced technology additive system to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline and diesel fueled automobiles and light duty trucks requiring an API SN specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 5W-30 SN	Test Method	Units	5W-30	5W-40	5W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.848	0.850	0.855
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30	20.50
Viscosity @ 40 °C	ASTM D 445	cSt	58.65	88.6	140.55
Viscosity Index	ASTM D 2270	-	169	168	170
Pour Point	ASTM D 97	°C	-42	-42	-42
Flash Point (COC)	ASTM D 92	°C	220	228	230
Total Base Number	ASTM D 2896	mg KOH/g	10.2	10.2	10.2
Phosphorous	ASTM D 4951	% wt	0.1	0.1	0.1
CCS Viscosity	ASTM D 5293	cP	4560 @ -30 °C	4650 @ -30 °C	4850 @ -30 °C

- API SN, SM, SL, SJ, CF
- ACEA A3/B3, A3/B4
- VW 502 00/505 00
- Porsche A40
- BMW Long Life- 01
- Renault RN 0700
- MB- Approval 229.3
- KOYOTO 5W30 SL also meets
- MB 229.5



KOYOTO 5W-40 SM

KOYOTO 5W-40 SM series is designed with synthetic base stocks and advanced technology additive system to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline and diesel fueled automobiles and light duty trucks requiring an API SM/CF specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 5W-40 SM	Test Method	Units	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.848	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	58.65	88.6
Viscosity Index	ASTM D 2270	-	169	168
Pour Point	ASTM D 97	°C	-39	-39
Flash Point (COC)	ASTM D 92	°C	220	228
Phosphorous	ASTM D 4951	% wt	0.072	0.072
CCS Viscosity	ASTM D 5293	cP	4560 @ -30 °C	4650 @ -30 °C

- API SM, SL, SJ



KOYOTO 5W-30 C3 SN

KOYOTO 5W30 C3 SN IS a fully synthetic advanced performance engine oils blended in high performance synthetic basestocks fortified with advanced technology additive system, specifically formulated to provide exceptional cleaning power, wear protection and overall performance. It helps prolong the life and maintain the efficiency of Car Emission Reduction Systems in both diesel and gasoline powered automobile engines, with recent multi-valve engines equipped with turbochargers and direct injection fuel systems. Low content in Sulphated Ash, Phosphorus and Sulphur reduces particulate build up in Diesel Particulate Filters (DPF's) and avoids poisoning of Gasoline Catalytic Converters (CAT's).

KOYOTO 5W-43 C3 SN	Test Method	Units	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.848	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	58.65	88.6
Viscosity Index	ASTM D 2270	-	169	168
Pour Point	ASTM D 97	°C	-42	-42
Flash Point (COC)	ASTM D 92	°C	220	228
Total Base Number	ASTM D 2896	mg KOH/g	7.6	7.6
Phosphorous	ASTM D 4951	% wt	0.078	0.078
CCS Viscosity	ASTM D 5293	cP	4560 @ -30 °C	4650 @ -30 °C

- API SN, CF
- BMW Longlife-04
- MB 229.31
- ACEA C3/C2
- VW 502/505
- Porsche C30
- KOYOTO C3 5W30 SN has the following builder approval:
- MB- Approval 229.31



KOYOTO 5W-30 LL SN

KOYOTO LL 5W30 SN is an advanced technology fully synthetic high performance engine oil formulated with perfect blend of severely refined fully synthetic and PAO (Polyalphaolefin) basestocks fortified with sophisticated additive technology, specifically to provide extra long oil drain intervals (long life), save fuel consumption, protect antipollution systems and improve overall engine performance. It helps prolong the life and maintain the efficiency of Car Emission Reduction Systems in both diesel and gasoline powered automobile engines, with recent multi-valve engines equipped with turbochargers and direct injection fuel systems. Low content in Sulphated Ash, Phosphorus and Sulphur reduces particulate build up in Diesel Particulate Filters (DPF's) and avoids poisoning of Gasoline Catalytic Converters (CAT's)

KOYOTO 5W-30 LL SN	Test Method	Units	5W-30
Density @ 15 °C	ASTM D 4052	gm/cc	0.8425
Viscosity @ 100 °C	ASTM D 445	cSt	12.0
Viscosity @ 40 °C	ASTM D 445	cSt	68.85
Viscosity Index	ASTM D 2270	-	173
Pour Point	ASTM D 97	°C	-45
Flash Point (COC)	ASTM D 92	°C	235
Total Base Number	ASTM D 2896	mg KOH/g	8.8
Phosphorous	ASTM D 4951	% wt	0.078
CCS Viscosity	ASTM D 5293	cP	5950 @ -30 °C

- API SN, CF
- ACEA C3-12
- MB 229.51
- Porsche C30
- BMW Longlife-04
- VW 504.00/507.00
- GM dexos2



KOYOTO 5W-30 C4 SN

KOYOTO 5W-30 C4 SN series is a range of advanced technology fully synthetic engine oils blended in severely refined basestocks fortified with latest additive technology system, specifically to provide optimum engine durability with improved anti-wear properties, maximum engine cleanliness & extended oil drain intervals due to greater retention of detergency and dispersion properties, reduced fuel consumption and improved overall engine performance. It helps prolong the life and maintain the efficiency of Car Emission Reduction Systems in both diesel and gasoline powered automobile engines, with recent multi-valve engines equipped with turbochargers and direct injection fuel systems. Low-SAPS product technology complying with latest 'Euro V' emission control norms, effectively reduces particulate build up in Diesel Particulate Filters (DPF's) and avoids poisoning of Gasoline Catalytic Converters (CAT's) ensuring greater compatibility with exhaust post-treatment systems for longer

KOYOTO 5W-30 C4 SN	Test Method	Units	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	12.0	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	69.55	88.6
Viscosity Index	ASTM D 2270	-	171	168
Pour Point	ASTM D 97	°C	-42	-42
Flash Point (COC)	ASTM D 92	°C	230	235
Total Base Number	ASTM D 2896	mg KOH/g	8.0	8.0
Phosphorous	ASTM D 4951	% wt	0.050	0.050
Sulphated Ash	ASTM D 874	% wt	<0.50	<0.50
CCS Viscosity	ASTM D 5293	cP	6250 @ -30 °C	6450 @ -30 °C

- API SN, CF
- ACEA C4-16
- Renault RN 0720
- MB 226.51



KOYOTO 5W-30 ESP SN

KOYOTO 5W-30 ESP SN series is an advanced technology fully synthetic high performance engine oils blended in severely refined fully synthetic basestocks fortified with sophisticated additive technology, specifically to provide extended oil drain intervals, save fuel consumption, protect antipollution systems and improve overall engine performance. It helps prolong the life and maintain the efficiency of Car Emission Reduction Systems in both diesel and gasoline powered automobile engines, with recent multi-valve engines equipped with turbochargers and direct injection fuel systems. Low content in Sulphated Ash, Phosphorus and Sulphur reduces particulate build up in Diesel Particulate Filters (DPF's) and avoids poisoning of Gasoline Catalytic Converters (CAT's).

KOYOTO 5W-30 ESP SN	Test Method	Units	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	12.0	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	69.55	88.6
Viscosity Index	ASTM D 2270	-	171	168
Pour Point	ASTM D 97	°C	-42	-42
Flash Point (COC)	ASTM D 92	°C	230	235
Total Base Number	ASTM D 2896	mg KOH/g	7.8	7.8
Phosphorous	ASTM D 4951	% wt	0.075	0.075
CCS Viscosity	ASTM D 5293	cP	6050 @ -30 °C	6250 @ -30 °C

KOYOTO Opera Ultimate ESP 5W30 SN meets

- API SN, CF
- ACEA C3/C2-16
- GM dexos2, Hyundai, Kia
- BMW Longlife-04
- VW 502/505.00/505.01
- MB 229.31/51

KOYOTO ESP 5W40 SN meets

- API SN, CF
- MB 229.31/51
- ACEA C3-16
- GM dexos2, Hyundai, Kia

KOYOTO ESP 5W30 SN has the following builder approval:

- MB- Approval 229.52



KOYOTO 5W-40 C2 SN

KOYOTO 5W-40 C2 SN series are fully synthetic advanced performance engine oils blended in high performance synthetic basestocks fortified with advanced technology additive system, specifically formulated to provide exceptional cleaning power, wear protection and overall performance. It helps prolong the life and maintain the efficiency of exhaust gas after treatment systems in both diesel and gasoline powered automobile engines, with recent multi-valve engines equipped with turbochargers and direct injection fuel systems. Mid SAPS (Sulphated Ash, Phosphorus and Sulphur) reduces particulate build up in Diesel Particulate Filters (DPF's) and avoids poisoning of Gasoline Catalytic Converters (CAT's).

KOYOTO 5W-40 C2 SN	Test Method	Units	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	12.0	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	69.55	88.6
Viscosity Index	ASTM D 2270	-	171	168
Pour Point	ASTM D 97	°C	-42	-42
Flash Point (COC)	ASTM D 92	°C	230	235
Total Base Number	ASTM D 2896	mg KOH/g	7.8	7.8
Phosphorous	ASTM D 4951	% wt	0.075	0.075
CCS Viscosity	ASTM D 5293	cP	6050 @ -30 °C	6250 @ -30 °C

- API SN, CF
- Renault RN 0700
- ACEA C2-12
- PSA B71 2290

KOYOTO 0W-16 SP

KOYOTO 0W-16 SP series are advanced technology engine oil blended in high performance fully synthetic basestocks fortified with precisely balanced additive system, specifically to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for the latest downsized engines equipped with stop & start technologies and hybrid engines requiring an API SP specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in the latest engine designs operating under severe conditions and protects against the potential for pre-ignition (LSPI) in these engines, including high-performance turbo-charged gasoline direct injection (TGTDI) and non TGTDI designs, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 0W-16 SP	Test Method	Units	0W-16	0W-20	0W-30
Density @ 15 °C	ASTM D 4052	gm/cc	0.840	0.840	0.845
Viscosity @ 100 °C	ASTM D 445	cSt	7.45	8.6	10.4
Viscosity @ 40 °C	ASTM D 445	cSt	38.25	44.8	58.0
Viscosity Index	ASTM D 2270	-	165	173	171
Pour Point	ASTM D 97	°C	-42	-42	-42
Flash Point (COC)	ASTM D 92	°C	220	220	225
Total Base Number	ASTM D 2896	mg KOH/g	7.2	7.2	7.2
Phosphorous	ASTM D 4951	% wt	0.077	0.077	0.077
CCS Viscosity	ASTM D 5293	cP	5060 @ -35 °C	5560 @ -35 °C	5600 @ -35 °C

- API SP, SN Plus, SN, SM, SL, SJ
- API SP Resource Conserving, SN Plus Resource Conserving, SN Resource Conserving
- ILSAC GF-6A
- HONDA, TOYOTA, MITSUBISHI
- General Motors dexos1 Gen2
- 0W20: Ford WSS-M2C947-A/B1, WSS-M2C962-A1
- 0W30: Ford WSS-M2C946-A, WSS-M2C929-A, WSS-M2C953-A/B1, WSS-M2C963-A1

KOYOTO 0W-20 SP

KOYOTO 0W-20 SP series are advanced technology engine oil blended in high performance fully synthetic basestocks fortified with precisely balanced additive system, specifically to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for the latest downsized engines equipped with stop & start technologies and hybrid engines requiring an API SP specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in the latest engine designs operating under severe conditions and protects against the potential for pre-ignition (LSPI) in these engines, including high-performance turbo-charged gasoline direct injection (TGTDI) and non TGTDI designs, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 0W-20 SP	Test Method	Units	0W-16	0W-20	0W-30
Density @ 15 °C	ASTM D 4052	gm/cc	0.840	0.840	0.845
Viscosity @ 100 °C	ASTM D 445	cSt	7.45	8.6	10.4
Viscosity @ 40 °C	ASTM D 445	cSt	38.25	44.8	58.0
Viscosity Index	ASTM D 2270	-	165	173	171
Pour Point	ASTM D 97	°C	-42	-42	-42
Flash Point (COC)	ASTM D 92	°C	220	220	225
Total Base Number	ASTM D 2896	mg KOH/g	7.2	7.2	7.2
Phosphorous	ASTM D 4951	% wt	0.077	0.077	0.077
CCS Viscosity	ASTM D 5293	cP	5060 @ -35 °C	5560 @ -35 °C	5600 @ -35 °C

- API SP, SN Plus, SN, SM, SL, SJ
- API SP Resource Conserving, SN Plus Resource Conserving, SN Resource Conserving
- ILSAC GF-6A
- HONDA, TOYOTA, MITSUBISHI
- General Motors dexos1 Gen2
- 0W20: Ford WSS-M2C947-A/B1, WSS-M2C962-A1
- 0W30: Ford WSS-M2C946-A, WSS-M2C929-A, WSS-M2C953-A/B1, WSS-M2C963-A1

KOYOTO 0W-30 SN

KOYOTO 0W-30 SN/CF series is formulated with fully synthetic base stocks and advanced technology additive system to provide extra high level of engine protection and performance. It is suitable for higher mileage gasoline and diesel powered modern automobiles requiring an API SN/CF specification, where very high viscosity index oils are preferred to provide much longer oil drain intervals & fuel efficiency in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 0W-30 SN	Test Method	Units	0W-30	0W-40	0W-60
Density @ 15 °C	ASTM D 4052	gm/cc	0.840	0.845	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30	22.50
Viscosity @ 40 °C	ASTM D 445	cSt	54.2	80.9	144.75
Viscosity Index	ASTM D 2270	-	185	185	185
Pour Point	ASTM D 97	°C	-48	-48	-48
Flash Point (COC)	ASTM D 92	°C	228	236	245
Total Base Number	ASTM D 2896	mg KOH/g	10.2	10.2	10.2
Phosphorous	ASTM D 4951	% wt	0.1	0.1	0.1
CCS Viscosity	ASTM D 5293	cP	4050 @ -35 °C	4180 @ -35 °C	5550 @ -35 °C

- API SN, SM, SL, SJ, CF
- ACEA A3/B3, A3/B4
- VW 502 00/505 00
- Porsche A40
- BMW Long Life- 01
- Renault RN 0700/0710
- MB 229.3/ 229.5

KOYOTO 0W-20 FE SN

KOYOTO 0W-20 FE SN series are advanced technology engine oils blended in high performance fully synthetic (PAO – polyalphaolefin) basestocks fortified with precisely balanced additive system, specifically to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for the latest downsized engines equipped with stop & start technologies and hybrid engines requiring an API SN specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO 0W-20 FE SN	Test Method	Units	0W-20	0W-30
Density @ 15 °C	ASTM D 4052	gm/cc	0.840	0.845
Viscosity @ 100 °C	ASTM D 445	cSt	8.6	10.4
Viscosity @ 40 °C	ASTM D 445	cSt	44.8	58.0
Viscosity Index	ASTM D 2270	-	173	171
Pour Point	ASTM D 97	°C	-42	-42
Flash Point (COC)	ASTM D 92	°C	220	225
Total Base Number	ASTM D 2896	mg KOH/g	8.0	8.0
Phosphorous	ASTM D 4951	% wt	0.078	0.078
CCS Viscosity	ASTM D 5293	cP	5560 @ -35 °C	5600 @ -35 °C

- KOYOTO Spark Ultimate FE meets
- API SN, SM, SL, SJ
 - ILSAC GF-5, HONDA, TOYOTA, MITSUBISHI
 - Ford WSS-M2C947-A/B1
 - General Motors dexos1
- KOYOTO Spark Ultimate FE 0W30 SN also meets
- ACEA A1/B1

KOYOTO 10W-30 SP

KOYOTO SAE 10-30 SP series are advanced technology engine oil blended in high performance fully synthetic basestocks fortified with precisely balanced additive system, specifically to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for the latest downsized engines equipped with stop & start technologies and hybrid engines requiring an API SP specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in the latest engine designs operating under severe conditions and protects against the potential for pre-ignition (LSPI) in these engines, including high-performance turbo-charged gasoline direct injection (TGTDI) and non TGTDI designs, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO SAE 10-30 SP	Test Method	Units	10W-30	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.868	0.870
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	62.6	95
Viscosity Index	ASTM D 2270	-	156	155
Pour Point	ASTM D 97	°C	-36	-36
Flash Point (COC)	ASTM D 92	°C	225	230
Total Base Number	ASTM D 2896	mg KOH/g	7.2	7.2
Phosphorous	ASTM D 4951	% wt	0.077	0.077
CCS Viscosity	ASTM D 5293	cP	5550 @ -25 °C	5650 @ -25 °C

- API SP, SN Plus, SN, SM, SL, SJ (10W40 meets only this specifications)
- API SP Resource Conserving, SN Plus Resource Conserving, SN Resource Conserving, ACEA A5/B5
- ILSAC GF-6A, HONDA, TOYOTA, MITSUBISHI
- General Motors dexos1 Gen2

KOYOTO 10W-40 SN/CF

KOYOTO 10W-40 SN/CF series is designed with synthetic blend base stocks and advanced technology additive system to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline fueled automobiles and light duty trucks requiring an API SN/CF specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines and better oil consumption control in older vehicles where oil usage (burning) is an issue. Improved fuel economy & easy cold starts due to good fluidity at low temperatures. High resistant oil film even at high engine operating temperatures. Excellent detergency and dispersancy, reduces sludge formation which improves engine cleanliness. Excellent oxidation & thermal stability, helps in extending oil drain intervals. Superior wear protection for greater engine reliability and performance.

KOYOTO SAE 10-40 SN/CF	Test Method	Units	10W-40	10W-60
Density @ 15 °C	ASTM D 4052	gm/cc	0.870	0.875
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	22.50
Viscosity @ 40 °C	ASTM D 445	cSt	95	175.7
Viscosity Index	ASTM D 2270	-	155	155
Pour Point	ASTM D 97	°C	-36	-36
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	10.2	10.2
Phosphorous	ASTM D 4951	% wt	0.1	0.1
CCS Viscosity	ASTM D 5293	cP	5650 @ -25 °C	6050 @ -25 °C

- API SN, SM, SL, SJ, CF
- MB 229.3
- ACEA A3/B3, A3/B4-12
- Renault RN0700/0710
- VW 502 00/505 00

KOYOTO 10W-30 FE SN

KOYOTO FE 10W30 SN is advanced technology engine oil blended in high performance synthetic blend basestocks fortified with precisely balanced additive system, specifically formulated to help deliver high level of performance and outstanding protection during long service intervals. It is suitable for higher mileage gasoline and diesel fueled automobiles and light duty trucks requiring an API SN specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines. It provides maximum protection in engines operating under severe conditions, including high-performance turbo-charged, supercharged gasoline and certain diesel multi-valve fuel injected systems.

KOYOTO SAE 10-30 SN FE	Test Method	Units	10W-30
Density @ 15 °C	ASTM D 4052	gm/cc	0.855
Viscosity @ 100 °C	ASTM D 445	cSt	10.4
Viscosity @ 40 °C	ASTM D 445	cSt	64.5
Viscosity Index	ASTM D 2270	-	149
Pour Point	ASTM D 97	°C	-36
Flash Point (COC)	ASTM D 92	°C	225
Total Base Number	ASTM D 2896	mg KOH/g	8.0
Phosphorous	ASTM D 4951	% wt	0.078
CCS Viscosity	ASTM D 5293	cP	5900 @ -25 °C

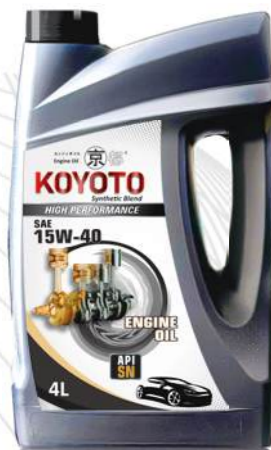
- API SN, SM, SL, SJ
- ILSAC GF-5
- General Motors dexos1
- ACEA A1/B1, A5/B5

KOYOTO 10W-40 SM

KOYOTO 10W-40 SM series is designed with semi-synthetic base stocks and advanced technology additive system to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline fueled automobiles and light duty trucks requiring an API SM/CF specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines and better oil consumption control in older vehicles where oil usage (burning) is an issue.

KOYOTO SAE 10-40 SM	Test Method	Units	10W-30	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.868	0.870
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	62.6	95
Viscosity Index	ASTM D 2270	-	156	155
Pour Point	ASTM D 97	°C	-36	-36
Flash Point (COC)	ASTM D 92	°C	220	230
Phosphorous	ASTM D 4951	% wt	0.072	0.072
CCS Viscosity	ASTM D 5293	cP	5550 @ -25 °C	5650 @ -25 °C

- API SM, SL, SJ, CF



KOYOTO15W-40 SN/CF

KOYOTO 15W-40 SN/CF series is designed with semi-synthetic base stocks and advanced technology additive system to provide very high level of engine protection and performance. It is suitable for higher mileage gasoline fueled automobiles and light duty trucks requiring an API SN/CF specification, where very high viscosity index oils are preferred to provide longer oil drain intervals in modern engines and better oil consumption control in older vehicles where oil usage (burning) is an issue.

Koyoto15W-40 SN/CF	Test Method	Units	15W-40	15W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.870	0.865
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	19.66
Viscosity @ 40 °C	ASTM D 445	cSt	100	154.6
Viscosity Index	ASTM D 2270	-	147	147
Pour Point	ASTM D 97	°C	-33	-36
Flash Point (COC)	ASTM D 92	°C	230	235
Total Base Number	ASTM D 2896	mg KOH/g	10.2	10.2
Phosphorous	ASTM D 4951	% wt	0.1	0.1
CCS Viscosity	ASTM D 5293	cP	5600 @ -20 °C	5550 @ -20 °C

- API SN, SM, SL, SJ, CF
- ACEA A3/B3, A3/B4
- MB 229.1
- Renault RN0700

KOYOTO15W-40 SL/CF

KOYOTO 15W-40 SL/CF is designed with high quality base stocks and advanced technology additive system to provide high level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise.

Koyoto15W-40 SL/CF	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.878
Viscosity @ 100 °C	ASTM D 445	cSt	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	100
Viscosity Index	ASTM D 2270	-	147
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	7.8
Phosphorous	ASTM D 4951	% wt	0.098
CCS Viscosity	ASTM D 5293	cP	5600 @ -20 °C

- API SL, SJ, CF
- ACEA A3/B3
- MB 229.1
- VW 505 00

KOYOTO15W-40 SJ/CF

KOYOTO 15W-40 SJ/CF series is formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Koyoto15W-40 SJ/CF	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.878
Viscosity @ 100 °C	ASTM D 445	cSt	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	100
Viscosity Index	ASTM D 2270	-	147
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	7.8
Phosphorous	ASTM D 4951	% wt	0.098
CCS Viscosity	ASTM D 5293	cP	5600 @ -20 °C

- API SL, SJ, CF
- ACEA A3/B3
- MB Approval 229.1
- VW 505 00

KOYOTO15W-40 SL/CF

KOYOTO 15W-40 SL/CF is designed with high quality base stocks and advanced technology additive system to provide high level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise.

Koyoto15W-40 SL/CF	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.878
Viscosity @ 100 °C	ASTM D 445	cSt	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	100
Viscosity Index	ASTM D 2270	-	147
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	7.8
Phosphorous	ASTM D 4951	% wt	0.098
CCS Viscosity	ASTM D 5293	cP	5600 @ -20 °C

- API SL, SJ, CF
- ACEA A3/B3
- MB 229.1
- VW 505 00



KOYOTO 20W-40 SN/CF

KOYOTO 20W-40 SN/CF series is designed with high quality base stocks and latest technology additive system to provide excellent level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for use in both gasoline and diesel, naturally aspirated or turbo charged engines, operating in all round seasons and adapted to vehicles equipped with catalytic converters running on unleaded fuels.

Koyoto 20W-40 SN/CF	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	8.2	8.2
Phosphorous	ASTM D 4951	% wt	0.1	0.1
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SN, SM, SL, SJ, CF
- MB Approval 229.1
- ACEA A3/B3
- Volkswagen VW 505 00

KOYOTO 20W-40 SL/CF

KOYOTO 20W-40 SL/CF is designed with high quality base stocks and advanced technology additive system to provide high level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise.

Koyoto 20W-40 SL/CF	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	7.8	7.8
Phosphorous	ASTM D 4951	% wt	0.098	0.098
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SL, SJ, SG, SF, CF, CD
- MB Approval 229.1
- ACEA A3/B3
- Volkswagen VW 505 00

KOYOTO 20W-50 SN/CF

KOYOTO 20W-50 SN/CF series is designed with high quality base stocks and latest technology additive system to provide excellent level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for use in both gasoline and diesel, naturally aspirated or turbo charged engines, operating in all round seasons and adapted to vehicles equipped with catalytic converters running on unleaded fuels.

Koyoto 20W-50 SN/CF	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	8.2	8.2
Phosphorous	ASTM D 4951	% wt	0.1	0.1
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SN, SM, SL, SJ, CF
- MB Approval 229.1
- ACEA A3/B3
- Volkswagen VW 505 00

KOYOTO 20W-50 SM

KOYOTO 20W-50 SM series is designed with high quality base stocks and latest technology additive system to provide excellent level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise.

Koyoto 20W-50 SM	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Phosphorous	ASTM D 4951	% wt	0.072	0.072
CCS Viscosity	ASTM D 5293	cP	6060 @ -15 °C	6060 @ -15 °C

- API SN, SM, SL, SJ, CF
- MB Approval 229.1
- ACEA A3/B3
- Volkswagen VW 505 00





KOYOTO 20W-50 SL/CF

KOYOTO 20W-50 SL/CF is designed with high quality base stocks and advanced technology additive system to provide high level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise.

Koyoto 20W-50 SL/CF	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	7.8	7.8
Phosphorous	ASTM D 4951	% wt	0.098	0.098
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SL, SJ,SG, SF, CF, CD
- MB Approval 229.1
- ACEA A3/B3
- Volkswagen VW 505 00



KOYOTO 20W-50 SJ/CF

KOYOTO 20W-50 SJ/CF series are formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Koyoto 20W-50 SJ/CF	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	6.2	6.2
Phosphorous	ASTM D 4951	% wt	0.079	0.079
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SJ, SG, SF, CF, CD
- ACEA A2/B2



KOYOTO 20W-50 SG/CD

KOYOTO 20W-50 SG/CD series are formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Koyoto 20W-50 SG/CD	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	6.0	6.0
Phosphorous	ASTM D 4951	% wt	0.070	0.070
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SG, SF, CD
- ACEA A2/B2



KOYOTO 20W-50 SF/CD

KOYOTO 20W-50 SF/CD series are formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Koyoto 20W-50 SF/CD	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	175
Viscosity Index	ASTM D 2270	-	137	136
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	5.8	5.8
Phosphorous	ASTM D 4951	% wt	0.078	0.078
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API SF, CD
- ACEA A2/B2

KOYOTO 50 6000 SF/CD

KOYOTO 6000 SF/CD series are monograde crankcase lubricants formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most mixed fleet applications and is suitable for general service and commercial engines.

Koyoto 50 6000 SF/CD	Test Method	Units	30	40	50
Density @ 15 °C	ASTM D 4052	gm/cc	0.892	0.900	0.904
Viscosity @ 100 °C	ASTM D 445	cSt	11.6	15.4	20.2
Viscosity @ 40 °C	ASTM D 445	cSt	102	158	234
Viscosity Index	ASTM D 2270	-	100	99	99
Pour Point	ASTM D 97	°C	-18	-18	-18
Flash Point (COC)	ASTM D 92	°C	230	236	242
Total Base Number	ASTM D 2896	mg KOH/g	5.8	5.8	5.8
Phosphorous	ASTM D 4951	% wt	0.078	0.078	0.078

- API SF, CD
- ACEA A2/B2



Koyoto TRANSYN DCTF	Test Method	Units	DCTF
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.855
Viscosity @ 100 °C	ASTM D 445	cSt	7.25
Viscosity @ 40 °C	ASTM D 445	cSt	35.5
Viscosity Index	ASTM D 2270	-	175
Pour Point	ASTM D 97	°C	-48
Flash Point (COC)	ASTM D 92	°C	205
Brookfield Viscosity @ -40°C	ASTM D 2983	cP	11,500

- VW (Audi, Seat, Skoda) 6-speed FWD
- Renault EDC 6-speed
- Chrysler Powershift 6-speed
- Ford Powershift 6-Speed
- Mitsubishi TC-SST 6-speed
- Volvo powershift 6-speed
- Peugeot / Citroen DCS 6-speed
- Bugatti Veyron

KOYOTO TRANSYN DCTF

KOYOTO Transyn DCTF is a high performance dual clutch transmission fluid, formulated with high quality fully synthetic base stocks and advanced additive technology with consistent shear stability for maintaining optimum film thickness for reliable protection of gears and bearings, also providing an outstanding improvement in friction durability enabling longer drain intervals under a broad range of driving conditions, temperatures and transmissions. It is designed specifically to be used as a service-fill DCT transmission fluid for European, Asian and American vehicles equipped with wet & dry dual clutch transmissions. Outstanding torque retention to provide smooth shift feel without NVH (Noise, Vibration and Harshness) concerns and all-around lubrication protection of the transmission components to help extend transmission service life with a smooth driving experience. It provides exceptional copper corrosion protection for better hardware durability, excellent oxidation control to provide longer fluid life and good seal compatibility for better leakage prevention.



Koyoto AFT DEX VI	Test Method	Units	Dexron VI
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	6.05
Viscosity @ 40 °C	ASTM D 445	cSt	30.5
Viscosity Index	ASTM D 2270	-	150
Pour Point	ASTM D 97	°C	-51
Flash Point (COC)	ASTM D 92	°C	205
Brookfield Viscosity @ -40°C	ASTM D 5293	cP	12,000

- Volvo CE 97340
- CAT TO-2
- Hyundai NWS-9638
- Chrysler ATF+, +2, +3 (MS 7176E), +4 (MS 9602)
- Audi 5 HP LT71141 (ZF 5 HP 18FL/19FL/24A)
- Acura ATF-Z1
- Aisin Warner JWS 3309 (T-IV) & JWS 3324 (WS)
- Allison C-3 & C-4
- Porsche T-IV (JWS 3309)
- MB 236.1/236.9
- Mitsubishi DiaQueen SP IV
- ZF M1375.4 (6HP)
- Honda ATF DW-1
- MB 236.12 & 236.14
- Toyota T-WS (JWS 3324)
- Hyundai / Kia SP-IV
- Nissan Matic S

KOYOTO AFT DEX VI

KOYOTO ATF Dex VI is an extra high-performance automatic transmission oil, formulated with high-quality hydro-treated base stocks, shear stable viscosity index improvers and advanced additive system to meet or exceed the latest requirements of Ford Mercon and General Motors for Dexron III specification. Suitable for passenger cars and commercial automatic transmissions, for use in applications like power steering systems, hydraulics and some manual transmissions where automatic transmission fluid is specified.

- General Motors DEXRON-VI
- JASO 1A-LV
- Ford Mercon LV
- ZF TE-ML 09X and all 3 & 4 speed transmission
- Vickers M2950-S, I-286-S
- BMW JWS 3309 (T-IV)
- Mazda ATF D-II/M-V/N-1
- Peugeot ZF 4HP20
- Jaguar ATF 3403 JLM20238



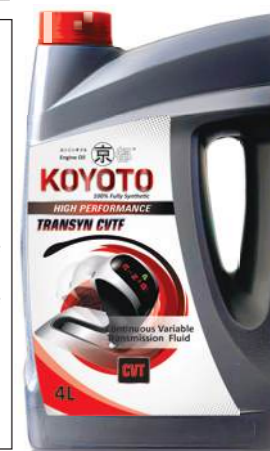
Koyoto TRANSYN CVTF	Test Method	Units	CVTF
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	7.15
Viscosity @ 40 °C	ASTM D 445	cSt	34.7
Viscosity Index	ASTM D 2270	-	175
Pour Point	ASTM D 97	°C	-48
Flash Point (COC)	ASTM D 92	°C	205
Brookfield Viscosity @ -40°C	ASTM D 5293	cP	10,000

- Audi/VW (TL 52180; G 052 180; G 052 516)
- BMW/Mini Cooper 8322 0 136 376/8322 0 429 154 (EZL 799)
- Hyundai Genuine CVTF
- Hyundai / Kia (SP-III, SP CVT I)
- JASO 1A
- Mercedes Benz CVT28 (236.20)
- Mitsubishi (CVTF-J1/CVTF-DiaQueen J1/DiaQueen J-4/Sp-III)
- Mazda CVTF 3320
- Nissan NS-1/NS-2/NS-3
- Punch (EZL 799A)-7 QCFT)
- Subaru (NS 2/ Lineartronic CVTF/ICVTF/K0425Y0710/CV30/e-CVTF)
- Suzuki (TC / NS 2 / CVT Green 1 / CVTF Green/CVTF 3320)
- Shell Green 1V
- Toyota/Lexus TC/FE*
- Daihatsu (Amix CVTF-DC / Amix CVTF DFE)
- Dodge / Jeep CVT (NS-2 / CVTF+4/ MOPAR CVT 4)

KOYOTO TRANSYN CVTF

KOYOTO Transyn CVTF is a high performance continuous variable transmission fluid, formulated with high quality fully synthetic base stocks and advanced additive technology to ensure consistent repeatable, smooth, step-less shifts under a broad range of driving conditions, temperatures and transmissions. It meets or exceeds the requirements of specifications for many Japanese, American & European designed vehicles and is also suitable in most OEMs CVTs with chain and push belt. It provides smoother, consistent all weather step-less shifting, and all-around lubrication protection of the transmission components to help extend transmission service life and provide a smooth driving experience. Suitable for refill of most pulley-based continuously variable transmissions in Japanese and Korean designed vehicles (except for CVTs that require gear oils and toroidal CVTs), where it emphasizes on Anti Shudder Durability performance.

- GM/Saturn (DEX-CVT/CVTF I-Green2*)
- ZF CVT V1
- Ford (CVT23 / CVT30/ MERCON C/CFT30/WSS-M2C933-A/Motorcraft XT
- Honda (HMMF, HCF 2)





KOYOTO TRANSFLUID ATF

KOYOTO Transfluid ATF Type A is a high performance automatic transmission oil, formulated with high quality base stocks, shear stable viscosity index improvers and advanced additive system to meet or exceed the requirements of General Motors for Type A specification. Suitable for passenger cars and commercial automatic transmissions, for use in applications like power steering systems, hydraulics and some manual transmissions where automatic transmission fluid is specified.

KOYOTO TRANSFLUID ATF	Test Method	Units	Type A
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.876
Viscosity @ 100 °C	ASTM D 445	cSt	7.6
Viscosity @ 40 °C	ASTM D 445	cSt	41.3
Viscosity Index	ASTM D 2270	-	155
Pour Point	ASTM D 97	°C	-45
Flash Point (COC)	ASTM D 92	°C	202

- GM Dexron Type A
- MB 236.2



KOYOTO TRANSFLUID ATF DX II

KOYOTO Multi Transfluid ATF DXII is an extra high performance automatic transmission oil, formulated with high quality hydro-treated base stocks, shear stable viscosity index improvers and advanced additive system including viscosity index improvers, antioxidants, and defoamers providing smooth and controlled friction/wear characteristics, to meet or exceed the requirements of Ford Mercon and General Motors for Dexron III specification. Suitable for passenger cars and commercial automatic transmissions, for use in applications like power steering systems, hydraulics and some manual transmissions where automatic transmission fluid is specified.

KOYOTO TRANSFLUID ATF DX II	Test Method	Units	DX II
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.865
Viscosity @ 100 °C	ASTM D 445	cSt	7.2
Viscosity @ 40 °C	ASTM D 445	cSt	37.5
Viscosity Index	ASTM D 2270	-	160
Pour Point	ASTM D 97	°C	-45
Flash Point (COC)	ASTM D 92	°C	202

- GM Dexron II, Type A & Ford
- Allison C-4
- Voith Turbo 55.6335 (G607 list)
- Volvo 97340
- MB 236.1/5/6/7/9
- MAN 339 Z1 & V1
- ZF TE-ML 02F/4D/09/11A/11B/14A/17C
- CAT TO-2



KOYOTO TRANSFLUID ATF DX III

Eiffel Multi Transfluid ATF DXIII is an extra high performance automatic transmission oil, formulated with high quality hydro-treated base stocks, shear stable viscosity index improvers and advanced additive system including viscosity index improvers, antioxidants, and defoamers providing smooth and controlled friction/wear characteristics, to meet or exceed the requirements of Ford Mercon and General Motors for Dexron III specification. Suitable for passenger cars and commercial automatic transmissions, for use in applications like power steering systems, hydraulics and some manual transmissions where automatic transmission fluid is specified.

KOYOTO TRANSFLUID ATF DX III	Test Method	Units	DX III
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.856
Viscosity @ 100 °C	ASTM D 445	cSt	7.4
Viscosity @ 40 °C	ASTM D 445	cSt	35.8
Viscosity Index	ASTM D 2270	-	178
Pour Point	ASTM D 97	°C	-51
Flash Point (COC)	ASTM D 92	°C	202

- MB 236.1/5/6/7/9
- MAN 339 Z1 & V1/ 339 Z2 & V2
- ZF TE-ML 03D/4D/09/11A/11B/14A/17C
- GM Dexron III, Type A & Ford Mercon
- Allison C-4 & CAT TO-2
- Voith Turbo 55.6335 (G607 list) & Volvo 97340



KOYOTO TRANSYN AL4/4HP20

KOYOTO Transyn ATF AL4 is a high-performance automatic transmission oil, formulated with high quality fully synthetic base stocks and sophisticated additive system including high shear stable viscosity index improvers, antioxidants, providing smooth & controlled friction/wear characteristics, optimum low temperature fluidity, that meets or exceeds the stringent requirement specifications and provides protection in AL4 transmissions. Suitable for all automatic, semi-automatic transmissions or torque converters in passenger cars and commercial vehicles, also used in applications like electronically controlled convertor clutches, 4HP20 and ZF 5HP19 gear boxes and transmissions where LT 71141 is recommended

KOYOTO TRANSYN AL4/4HP20	Test Method	Units	Red
Color	Visual	-	Red
Density @ 15 °C	ASTM D 4052	gm/cc	0.856
Viscosity @ 100 °C	ASTM D 445	cSt	7.4
Viscosity @ 40 °C	ASTM D 445	cSt	35.8
Viscosity Index	ASTM D 2270	-	178
Pour Point	ASTM D 97	°C	-51
Flash Point (COC)	ASTM D 92	°C	202

- MB 236.1/5/6/7/9
- MAN 339 Z1 & V1/ 339 Z2 & V2
- ZF TE-ML 03D/4D/09/11A/11B/14A/17C
- GM Dexron III, Type A & Ford Mercon
- Allison C-4 & CAT TO-2
- Voith Turbo 55.6335 (G607 list) & Volvo 97340

Eiffel Syn Dura Maxx EP	Test Method	Units	75W80
Density @ 15 °C	ASTM D 4052	gm/cc	0.850
Viscosity @ 40 °C	ASTM D 445	cSt	56.5
Viscosity @ 100 °C	ASTM D 445	cSt	9.5
Viscosity Index	ASTM D 2270	-	152
Pour Point	ASTM D 97	°C	-42
Flash Point (COC)	ASTM D 92	°C	220
Copper Strip Corrosion	ASTM D 130	-	1A
Foam Seq I,II,III	ASTM D 892	ml/ml	10/0
Phosphorus	ASTM D 4951	%wt	0.026

- API GL-4
- SAE J2360
- MB 235.28
- MAN 341 Type E-3/Z-4
- ZF TE ML 01L, 02L, 16K
- Volvo 97305

Eiffel Syn Dura Maxx EP	Test Method	Units	80W140
Density @ 15 °C	ASTM D 4052	gm/cc	0.89
Viscosity @ 40 °C	ASTM D 445	cSt	25.4
Viscosity @ 100 °C	ASTM D 445	cSt	25.6
Viscosity Index	ASTM D 2270	-	130
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	242
Copper Strip Corrosion	ASTM D 130	-	1B
Foam Seq I,II,III	ASTM D 892	ml/ml	20/0
Phosphorus	ASTM D 4951	%wt	0.055

- API GL-5/MT-1
- SAE J2360
- MIL-PRF-2105E
- Mack GO-J
- Scania STO 1:0
- Meritor 0-76-N
- ZF TE ML 05A, 12M, 16F, 21A

KOYOTO HD 75W-90 GL-5	Test Method	Units	75W90
Density @ 15 °C	ASTM D 4052	gm/cc	0.87
Viscosity @ 40 °C	ASTM D 445	cSt	97.25
Viscosity @ 100 °C	ASTM D 445	cSt	14.5
Viscosity Index	ASTM D 2270	-	155
Pour Point	ASTM D 97	°C	-39
Flash Point (COC)	ASTM D 92	°C	222
Copper Strip Corrosion	ASTM D 130	-	1B
Foam Seq I,II,III	ASTM D 892	ml/ml	10/0
Phosphorus	ASTM D 4951	%wt	0.055

- API GL-5/MT-1
- SAE J2360
- MIL-PRF-2105E
- Mack GO-J
- Scania STO 1:0
- MAN 342 M2
- ZF TE ML 05A, 12L, 12N, 16F, 17B, 19C, 21A
- Volvo 97312
- MB 235.8
- Meritor 0-76-N

KOYOTO HD 80W-90 GL-5	Test Method	Units	90	140	80W90	85W90	85W140
Density @ 15 °C	ASTM D 4052	gm/cc	0.890	0.910	0.888	0.890	0.908
Viscosity @ 40 °C	ASTM D 445	cSt	145	447	146	190	356
Viscosity @ 100 °C	ASTM D 445	cSt	14.3	30.0	14.7	17.4	25.6
Viscosity Index	ASTM D 2270	-	96	95	100	97	95
Pour Point	ASTM D 97	°C	-12	-9	-24	-24	-15
Flash Point (COC)	ASTM D 92	°C	240	260	230	236	248
Copper Strip Corrosion	ASTM D 130	-	1B	1B	1B	1B	1B
Foam Seq I,II,III	ASTM D 892	ml/ml	10/0	20/0	10/0	10/0	20/0
Phosphorus	ASTM D 4951	%wt	0.055	0.055	0.055	0.055	0.055

- API GL-5
- MIL-L-2105D (U.S Military Specification)
- MAN 342 M2
- ZF TE ML 05A, 7A, 12E, 16B,C & D, 17B, 19B, 21A

Koyoto 75W-80 EP GL-4

Eiffel Syn Dura Maxx EP 75W80 GL-4 is a high performance heavy duty gear oil, formulated from high quality Synthetic Blend of base oils and an advanced additive system. These lubricants are designed for automotive heavy duty manual transmissions of most OEM like MAN, IVECO, DAF and RENAULT. Moreover, these oils are specially engineered for fuel economy manual transmissions in commercial vehicles.



KOYOTO HD 80W140 GL-5

Eiffel Syn Dura Maxx HD 80W140 GL-5 is a high performance heavy duty gear oil, formulated from high quality Synthetic Blend of base oils and an advanced additive system. These lubricants are designed for automotive heavy-duty transmissions, axles and final drives. Moreover these oils are specially engineered for heavy-duty axles and final drives where extreme pressures and shock loadings are expected.



KOYOTO HD 75W-90 GL-5

KOYOTO HD 75W90 GL-5 is a high performance heavy duty gear oil, formulated from high quality Synthetic Blend of base oils and an advanced additive system. These lubricants are designed for automotive heavy duty transmissions, axles and final drives. Moreover these oils are specially engineered for heavy-duty axles and final drives where extreme pressures and shock loadings are expected.



KOYOTO HD 80W-90 GL-5

KOYOTO 80W-90 HD series of lubricants are high performance heavy duty gear oils, formulated from high quality base oils and an advanced additive system. These lubricants are designed for automotive heavy-duty trans- missions, axles and final drives. Moreover these oils are specially engine engineered for heavy-duty axles and final drives where extreme pressures and shock loadings are expected.



KOYOTO SAE 140 GL-5

KOYOTO HD 140 GL-5 series of lubricants are high performance heavy duty gear oils, formulated from high quality base oils and an advanced additive system. These lubricants are designed for automotive heavy-duty transmissions, axles and final drives. Moreover these oils are specially engineered for heavy-duty axles and final drives where extreme pressures and shock loadings are expected.

KOYOTO SAE 140 GL-5	Test Method	Units	90	140	80W90	85W90	85W140
Density @ 15 °C	ASTM D 4052	gm/cc	0.890	0.910	0.888	0.890	0.908
Viscosity @ 40 °C	ASTM D 445	cSt	145	447	146	190	356
Viscosity @ 100 °C	ASTM D 445	cSt	14.3	30.0	14.7	17.4	25.6
Viscosity Index	ASTM D 2270	-	96	95	100	97	95
Pour Point	ASTM D 97	°C	-12	-9	-24	-24	-15
Flash Point (COC)	ASTM D 92	°C	240	260	230	236	248
Copper Strip Corrosion	ASTM D 130	-	1B	1B	1B	1B	1B
Foam Seq I,II,III	ASTM D 892	ml/ml	10/0	20/0	10/0	10/0	20/0
Phosphorus	ASTM D 4951	%wt	0.026	0.026	0.026	0.026	0.026

- API GL-4
- MIL-L-2105 (U.S Military Specification)

KOYOTO DURA COOL LLC

KOYOTO Dura Cool LLC a 'Long Life Coolant' is fill-for-life antifreeze concentrate, formulated with high quality Ethylene glycol and Silicate-Hybrid Technology based corrosion inhibitor (BAS Glysantin G48) additive to provide year round automotive cooling system treatment. It is designed to provide complete cooling system protection in a concentration range of 33% (-18 °C) & 50% (-37 °C) by volume. It is free from nitrite, amine, phosphate and borate and based on mono ethylene glycol, which must be diluted with water before use.

- MAN 324-NF
- Mercedes-Benz DBL 7700.20, page 325.0
- MTU MTL 5048
- Porsche Carrera, Boxster, Cayenne
- BMW N 600 69.0
- VW/Audi/Seat/Skoda/Bentley/Lamborghini: TL 774-C
- Opel/GM B 040 0240
- Deutz H-LV 0161 0188
- Saab 69011599
- Liebherr TLV 035, TLV 23009 A
- Jenbacher TA-Nr. 1000-0201
- Volvo Truck/Car 1286083 issue 002

KOYOTO DURA COOL LLC	Test Method	Units	Value
Chemical Nature	--	--	Mono Ethylene Glycol - Glysantin G48
Density @ 20 °C	ASTMD 4052	gm/cc	1.122 - 1.125
Color	ASTMD 1500	--	Blue
Viscosity @ 20 °C	ASTM 445	mm2/sec	22 - 26
Refraction @ 20 °C	DIN 51423	--	1.432 - 1.436
pH	ASTMD 1287	--	8.2 - 8.6
Boiling Point	ASTMD 1120	°C	>160
Flash Point	ASTMD 92	°C	>120
Freezing Point	ASTMD 1177	°C	N/A
Product Name	Eiffel Dura Cool LLC	Water	Freeze Protection, acc. ASTM D 1177
Eiffel Dura Cool LLC -18 °C	33%	67%	-18 °C
Eiffel Dura Cool LLC -37 °C	50%	50%	-37 °C

KOYOTO DURA COOL ELC

KOYOTO Dura Cool ELC an 'Extended Life Coolant' is fill for life antifreeze concentrate, formulated with high quality Ethylene glycol and Organic Acid Technology (OAT) based corrosion inhibitor (BAS Glysantin G30) additive to provide year round automotive cooling system treatment. It is designed to provide complete cooling system protection in a concentration range of 30% to 50% by volume. It is free from nitrite, amine, phosphate, silicate and borate and based on mono ethylene glycol, which must be diluted with water before use.

- MAN 324-SNF
- Mercedes-Benz DBL 7700.30, page 325.3
- MTU MTL 5048
- Porsche Carrera, Boxster, Cayenne
- Scania TI 02-98 0813 T/B/M sv
- VW/Audi/Seat/Skoda/Bentley/Lamborghini: TL 774-D/F

KOYOTO DURA COOL ELC	Test Method	Units	Value
Chemical Nature	--	--	Mono Ethylene Glycol - Glysantin G30
Density @ 20 °C	ASTM D 4052	gm/cc	1.122 - 1.125
Color	ASTM D 1500	--	Magenta/Fluorescent Pink/Red
Viscosity @ 20 °C	ASTM 445	mm2/sec	22 - 26
Refraction @ 20 °C	DIN 51423	--	1.432 - 1.436
pH	ASTM D 1287	--	8.2 - 8.6
Boiling Point	ASTM D 1120	°C	>160
Flash Point	ASTM D 92	°C	>120
Freezing Point	ASTM D 1177	°C	N/A
Product Name	Eiffel Dura Cool ELC	Water	Freeze Protection, acc. ASTM D 1177
Eiffel Dura Cool ELC -18 °C	33%	67%	-18 °C
Eiffel Dura Cool ELC -37 °C	50%	50%	-37 °C

KOYOTO DURA COOL 100%

KOYOTO Dura Cool radiator coolant is formulated with high quality corrosion inhibited Mono-Ethylene glycol liquid and carefully selected additives to provide year round automotive cooling system treatment. It is designed to provide complete cooling system protection in a concentration range of 33% to 100% by volume.

- ASTM 3306
- British Standard - BS 6580

KOYOTO DURA COOL 100%	Test Method	Units	Value	Concentration
Grade	--	--	33%	40%
Density @ 20 °C	ASTM D 4052	gm/cc	1.050	1.080
Color	ASTM D 1500	--	Green	Green
pH	ASTM D 1287	--	7.9	8.0
Boiling Point	ASTM D 1120	°C	>105	>135
Flash Point	ASTM D 92	°C	>110	>110
Freezing Point	ASTM D 1177	°C	-18	-27

KOYOTO BRAKE FLUID DOT 4

KOYOTO Fluid DOT 4 are supreme performance hydraulic brake fluid based on polyethylene glycol ether technology to provide a high level of brake and clutch performance in automotive and commercial vehicles. They are designed to meet or exceed the general requirements of most builders of automotive disc, drum and anti-skid brake systems and clutch systems, used in average to high performance vehicles requiring DOT 3 or DOT 4 level performance.

- FMVSS 116 DOT 4
- ISO 4925 Class 3 & 4
- FMVSS 116 DOT 3
- SAE J-1703



KOYOTO BRAKE FLUID DOT 3

KOYOTO Fluid DOT 3 are supreme performance hydraulic brake fluid based on polyethylene glycol ether technology to provide a high level of brake and clutch performance in automotive and commercial vehicles. They are designed to meet or exceed the general requirements of most builders of automotive disc, drum and anti-skid brake systems and clutch systems.

- FMVSS 116 DOT 3
- ISO 4925 Class 3
- SAE J-1703



KOYOTO GREASES MP-3

KOYOTO Protect Grease MP series are high performance greases, formulated with lithium based thickeners and an ISO VG 150 mineral base stock to provide added protection against wear, rusting and water washout. They are available in NLGI grades 2 & 3, which are suitable for general purpose automotive applications at moderate temperatures and loads. The suitable operating temperature range is from -20°C to 120°C. It does not contain lead or any other heavy metals which are considered harmful to human health and environment.

KOYOTO GREASES MP-3	Test Method	Units	MP 2	MP 3
NLGI Grade	ASTM D 217	--	2	3
Thickener Type	--	--	Lithium	Lithium
Color	Visual	--	Cream	Cream
Texture	Visual	--	Smooth	Smooth
Penetration, Worked @ 25 °C, 60 strokes	ASTM D 217	0.1mm	265-295	220-250
Viscosity @ 40 °C	ASTM D 445	cSt	150	150
Dropping Point	ASTM D 566	°C	190 (min)	190 (min)
4-Ball Wear, Scar test	ASTM D 2266	mm	0.6	0.6

- DIN 51502: K2K-25/ K3K-20
- ISO 6743-9: L-XBCEA-2/3



KOYOTO 15W-50 CI4/SL

Eiffel Vista Titanium CI-4/SL series is a range of high performance diesel engine oils formulated with highly refined semi-synthetic base stocks and advanced technology additives to provide reliable performance in the latest emission designs, including those with EGR systems, as well as satisfying the needs of older engines.

Eiffel Vista Titanium	Test Method	Units	15W-40	15W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.884	0.884
Viscosity @ 100 °C	ASTM D 445	cSt	15.4	18.5
Viscosity @ 40 °C	ASTM D 445	cSt	120	155
Viscosity Index	ASTM D 2270	-	134	134
Pour Point	ASTM D 97	°C	-33	-33
Flash Point (COC)	ASTM D 92	°C	230	230
Total Base Number	ASTM D 2896	mg KOH/g	11.4	11.4
Sulfated Ash	ASTM D 874	% wt	1.2	1.2
CCS Viscosity	ASTM D 5293	cP	6000 @ -20 °C	6000 @ -20 °C

- API CI-4, CH-4, CG-4, CF-4, CF, SL, SJ
- Detroit Diesel 93K215
- ACEA E7/A3/B4
- CUMMINS CES 20076/7/20078
- CAT ECF-1a, ECF-2/ VOLVO VDS-3
- MTU OIL Category 2
- MAN M3275/MACK EO-M PLUS
- Deutz DQC -III-05/ MACK EO-N
- Global DHD-1/ Renault VI RLD-2
- MB 228.3/MB 229.1

KOYOTO 10W-40 CH-4/SL

Eiffel Marvela Platinum 10W-40 CH-4/SL diesel engine oil is formulated with high quality base stocks and specially selected additives to ensure optimum performance and protection for diesel engines requiring an API CH-4 specification. Suitable for modern and old diesel engines fitted on trucks, buses, construction or agricultural machinery with or without turbo charger, intercooler or sophisticated injection systems.

Eiffel Marvela Platinum	Test Method	Units	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.864
Viscosity @ 100 °C	ASTM D 445	cSt	14.4
Viscosity @ 40 °C	ASTM D 445	cSt	96
Viscosity Index	ASTM D 2270	-	155
Pour Point	ASTM D 97	°C	-39
Flash Point (COC)	ASTM D 92	°C	236
Total Base Number	ASTM D 2896	mg KOH/g	10.0
CCS Viscosity	ASTM D 5293	cP	6200 @ -25 °C

- API CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- MTU OIL Category-2
- MACK EO-M Plus
- CUMMINS CES 20076/7
- Renault RD-2
- CAT ECF-1a
- MAN M3275
- Deutz DQC -II-05
- MB 228.3

KOYOTO 20W-50 CI-4/SL

Eiffel Sahara Titanium CI-4/SL series is high performance diesel engine oil formulated with highly refined base stocks and advanced technology additives to provide reliable performance in the latest emission designs, including those with EGR systems, as well as satisfying the needs of older engines.

Eiffel Sahara Titanium	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	21.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	182
Viscosity Index	ASTM D 2270	-	137	137
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	11.5	11.5
Sulfated Ash	ASTM D 874	% wt	1.2	1.2
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6060 @ -15 °C

- API CI-4, CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- CAT ECF-1a, ECF-2
- MTU OIL Category 2
- MAN M3275
- VOLVO VDS-3
- Renault VI RLD-2
- Detroit Diesel 93K215
- CUMMINS CES 20076/7/20078
- Deutz DQC -III-05
- Global DHD-1
- MB 228.3/MB 229.1
- MACK EO-N

KOYOTO 20W-40 CH-4/CF

Eiffel Sahara Platinum CH-4 series diesel engine oil is formulated with high quality base stocks and specially selected additives to ensure optimum performance and protection for diesel engines requiring an API CH-4 specification. Suitable for modern and old diesel engines fitted on trucks, buses, construction or agricultural machinery with or without turbo charger, intercooler or sophisticated injection systems.

Eiffel Sahara Platinum	Test Method	Units	20W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.888
Viscosity @ 100 °C	ASTM D 445	cSt	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	107
Viscosity Index	ASTM D 2270	-	137
Pour Point	ASTM D 97	°C	-30
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	10.0
CCS Viscosity	ASTM D 5293	cP	6060 @ -15 °C

- API CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- CAT ECF-1a
- MTU OIL Category-2
- MACK EO-M Plus
- CUMMINS CES 20076/7
- Renault RD-2
- MAN M3275
- VOLVO VDS-2
- Deutz DQC -II-05
- MB 228.3

KOYOTO 20W-50 CH-4

Eiffel Sahara Platinum CH-4 series diesel engine oil is formulated with high quality base stocks and specially selected additives to ensure optimum performance and protection for diesel engines requiring an API CH-4 specification. Suitable for modern and old diesel engines fitted on trucks, buses, construction or agricultural machinery with or without turbo charger, intercooler or sophisticated injection systems.

Eiffel Sahara Platinum	Test Method	Units	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	20.4
Viscosity @ 40 °C	ASTM D 445	cSt	175
Viscosity Index	ASTM D 2270	-	137
Pour Point	ASTM D 97	°C	-30
Flash Point (COC)	ASTM D 92	°C	236
Total Base Number	ASTM D 2896	mg KOH/g	10.0
CCS Viscosity	ASTM D 5293	cP	6060 @ -15 °C

- API CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- CAT ECF-1a
- MTU OIL Category-2
- MACK EO-M Plus
- CUMMINS CES 20076/7
- Renault RD-2
- MAN M3275
- VOLVO VDS-2
- Deutz DQC -II-05
- MB 228.3

KOYOTO 20W-50 CF-4

Eiffel Sahara Silver CF-4 series are diesel engine oils formulated with high quality base stocks and selected additives to ensure optimum performance and protection for diesel engines requiring an API CF-4 specification.

Eiffel Sahara Silver	Test Method	Units	20W-40	20W-50
Density @ 15 °C	ASTM D 4052	gm/cc	0.888	0.890
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	21.4
Viscosity @ 40 °C	ASTM D 445	cSt	107	182
Viscosity Index	ASTM D 2270	-	137	137
Pour Point	ASTM D 97	°C	-30	-30
Flash Point (COC)	ASTM D 92	°C	230	236
Total Base Number	ASTM D 2896	mg KOH/g	8.0	8.0
CCS Viscosity	ASTM D 5293	cP	6020 @ -15 °C	6020 @ -15 °C

- API CF-4, CF, SJ
- ACEA E2
- MTU OIL Category-1
- MAN 270/271
- Deutz DQC -I-05
- VOLVO VDS
- MB 228.0/1

KOYOTO 15W-40 CH-4/SL

Eiffel Sahara Silver CF-4 series are diesel engine oils formulated with high quality base stocks and selected additives to ensure optimum performance and protection for diesel engines requiring an API CF-4 specification.

Eiffel Vista Platinum	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.884
Viscosity @ 100 °C	ASTM D 445	cSt	15.4
Viscosity @ 40 °C	ASTM D 445	cSt	120
Viscosity Index	ASTM D 2270	-	134
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	10.0
CCS Viscosity	ASTM D 5293	cP	6000 @ -20 °C

- API CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- CAT ECF-1a
- MTU OIL Category-2
- MAN M3275
- MACK EO-M Plus
- VOLVO VDS-2
- CUMMINS CES 20076/7
- Deutz DQC -II-05
- Renault RD-2
- MB 228.3

KOYOTO 15W-40 SG/CF

Eiffel Noble Deluxe SG/CF/CF-4 series are formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Eiffel Noble Deluxe	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.875
Viscosity @ 100 °C	ASTM D 445	cSt	14.60
Viscosity @ 40 °C	ASTM D 445	cSt	104
Viscosity Index	ASTM D 2270	-	145
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	7.1
CCS Viscosity	ASTM D 5293	cP	3310 @ -20 °C

- API SG, SF, CF-4, CF, CD
- ACEA A2/B2/E2
- Allicon C-3, MTU Type 1
- MB 228.1/ 229.1
- MAN 271
- CAT TO-2



KOYOTO 15W-40 SG/CF

Eiffel Noble Deluxe SG/CF/CF-4 series are formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Eiffel Noble Deluxe	Test Method	Units	15W-40				
Density @ 15 °C	ASTM D 4052	gm/cc	0.875				
Viscosity @ 100 °C	ASTM D 445	cSt	14.60				
Viscosity @ 40 °C	ASTM D 445	cSt	104				
Viscosity Index	ASTM D 2270	-	145				
Pour Point	ASTM D 97	°C	-33				
Flash Point (COC)	ASTM D 92	°C	230				
Total Base Number	ASTM D 2896	mg KOH/g	7.1				
CCS Viscosity	ASTM D 5293	cP	3310 @ -20 °C				

- API SG, SF, CF-4, CF, CD
- ACEA A2/B2/E2
- Allicon C-3, MTU Type 1
- MB 228.1/ 229.1
- MAN 271
- CAT TO-2



KOYOTO 15W-40 SG/CF

Eiffel Noble Deluxe 15W-40 CF-4 series are formulated with high quality base stocks and balanced additive system to provide high level of engine protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most car manufacturers and is suitable for standard services.

Eiffel Noble Deluxe	Test Method	Units	15W-40				
Density @ 15 °C	ASTM D 4052	gm/cc	0.875				
Viscosity @ 100 °C	ASTM D 445	cSt	14.60				
Viscosity @ 40 °C	ASTM D 445	cSt	104				
Viscosity Index	ASTM D 2270	-	145				
Pour Point	ASTM D 97	°C	-33				
Flash Point (COC)	ASTM D 92	°C	230				
Total Base Number	ASTM D 2896	mg KOH/g	7.1				
CCS Viscosity	ASTM D 5293	cP	3310 @ -20 °C				

- API CF-4, CF, CD
- ACEA A2/B2/E2
- Allicon C-3, MTU Type 1
- MB 228.1/ 229.1
- MAN 271
- CAT TO-2



KOYOTO 15W-40 CG4

Eiffel Vista Gold 15W-40 CG-4 diesel engine oil is formulated with high quality base stocks and balanced additive system to ensure optimum performance and protection for diesel engines requiring an API CG-4 specification.

Eiffel Vista Gold	Test Method	Units	15W-40	
Density @ 15 °C	ASTM D 4052	gm/cc	0.884	
Viscosity @ 100 °C	ASTM D 445	cSt	15.4	
Viscosity @ 40 °C	ASTM D 445	cSt	120	
Viscosity Index	ASTM D 2270	-	134	
Pour Point	ASTM D 97	°C	-30	
Flash Point (COC)	ASTM D 92	°C	230	
Total Base Number	ASTM D 2896	mg KOH/g	9.0	
CCS Viscosity	ASTM D 5293	cP	6000 @ -20 °C	

- API CG-4, CF-4, CF, SJ, SL
- MB 228.3/229.1
- MAN 3275
- Deutz DQC -II-05
- ACEA E3, A3, B3
- MTU OIL Category-2
- VOLVO VDS
- Renault RD/RGD

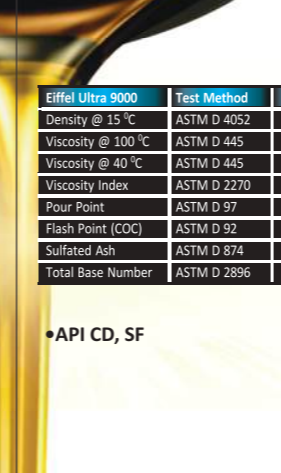


KOYOTO 40 CF/CS

Eiffel Ultra 9000 is a range of diesel engine oils formulated with high quality base stocks and selected additives to ensure optimum performance and protection for diesel engines requiring an API CF specification. Suitable for heavy duty, high output diesel engines where monograde oils are specified. It provides excellent protection in engines, against high temperature piston deposits, wear, corrosion and foaming under severe operating conditions.

Eiffel Ultra 9000	Test Method	Units	10W	20W-20	30	40	50
Density @ 15 °C	ASTM D 4052	gm/cc	0.880	0.888	0.892	0.900	0.904
Viscosity @ 100 °C	ASTM D 445	cSt	5.6	8.9	11.6	15.4	20.2
Viscosity @ 40 °C	ASTM D 445	cSt	32	60	102	158	234
Viscosity Index	ASTM D 2270	-	114	104	100	99	99
Pour Point	ASTM D 97	°C	-33	-24	-18	-15	-12
Flash Point (COC)	ASTM D 92	°C	214	226	230	236	242
Sulfated Ash	ASTM D 874	Wt%	0.95	0.95	0.95	0.95	0.95
Total Base Number	ASTM D 2896	mg KOH/g	9.6	9.6	9.6	9.6	9.6

- API CF, CD, SF
- ACEA E2
- Mercedes Benz 228.0
- MAN 270
- MTU Type-1
- Caterpillar TO-2

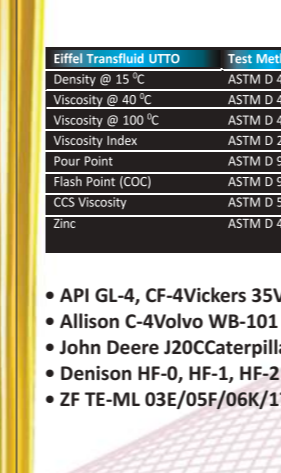


KOYOTO SAE 40 CD/SF

Eiffel Matrix 7000 is a range of diesel engine oils formulated with premium quality base stocks and selected additives to ensure optimum performance and protection for diesel engines requiring an API CD/SF specification. Suitable for heavy duty, high output diesel engines including supercharged units to provide excellent protection of engines against high temperature piston deposits, wear, corrosion and foaming under severe operating conditions.

Eiffel Ultra 9000	Test Method	Units	10W	20W-20	30	40	50
Density @ 15 °C	ASTM D 4052	gm/cc	0.880	0.888	0.892	0.900	0.904
Viscosity @ 100 °C	ASTM D 445	cSt	5.6	8.9	11.6	15.4	20.2
Viscosity @ 40 °C	ASTM D 445	cSt	32	60	102	158	234
Viscosity Index	ASTM D 2270	-	114	104	100	99	99
Pour Point	ASTM D 97	°C	-33	-24	-18	-15	-12
Flash Point (COC)	ASTM D 92	°C	214	226	230	236	242
Sulfated Ash	ASTM D 874	Wt%	0.95	0.95	0.95	0.95	0.95
Total Base Number	ASTM D 2896	mg KOH/g	9.6	9.6	9.6	9.6	9.6

- API CD, SF

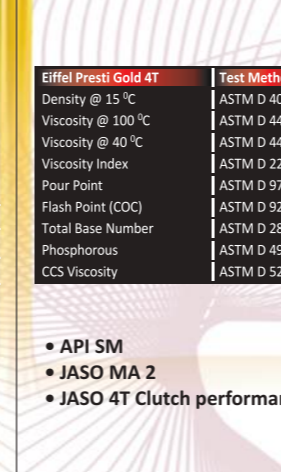


KOYOTO SAE 20W-40 UTTO

Eiffel Transfluid UTTO series are extra high performance multipurpose tractor lubricants formulated from highly refined base stocks and advanced technology additive system, to meet or exceed transmission and hydraulic fluid requirements. These oils are engineered to deliver the varied lubricant performance properties required in severe duty applications of agricultural and construction equipment drive trains. Moreover it is particularly well suited for reducing wet brake and Power Take-Off (PTO) chatter.

Eiffel Transfluid UTTO	Test Method	Units	10W30	15W-40	20W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.870	0.875	0.888
Viscosity @ 40 °C	ASTM D 445	cSt	59	103	107
Viscosity @ 100 °C	ASTM D 445	cSt	9.6	14.30	14.30
Viscosity Index	ASTM D 2270	-	146	142	136
Pour Point	ASTM D 97	°C	-39	-36	-33
Flash Point (COC)	ASTM D 92	°C	212	225	230
CCS Viscosity	ASTM D 5293	cP	5550 @ -25 °C	6000 @ -20 °C	6020 @ -15 °C
Zinc	ASTM D 4951	%wt	0.12 (Min) - 0.19 (max)	0.12 (Min) - 0.19 (max)	0.12 (Min) - 0.19 (max)

- API GL-4, CF-4Vickers 35VQ25
- Allison C-4Volvo WB-101
- John Deere J20Caterpillar TO-2
- Denison HF-0, HF-1, HF-2 (T5D & P46 pumps)JI Case MS 1204-07/09
- ZF TE-ML 03E/05F/06K/17ENew Holland NH 410B

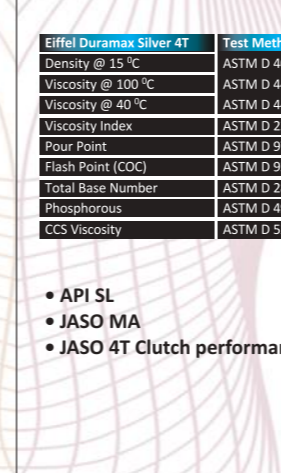


KOYOTO SAE 10W-40 SM/JASO MA2

Eiffel Presti Gold 4T 10W40SM(JASO MA2) is designed with high quality synthetic blend base stocks and advanced technology additive system to provide high level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most motorcycle manufacturers and is suitable for use in 4 stroke gasoline engines, naturally aspirated or turbo charged engines, operating in all round seasons and adapted to vehicles equipped with catalytic converters running on unleaded fuels.

Eiffel Presti Gold 4T	Test Method	Units	10W-40	
Density @ 15 °C	ASTM D 4052	gm/cc	0.870	
Viscosity @ 100 °C	ASTM D 445	cSt	14.30	
Viscosity @ 40 °C	ASTM D 445	cSt	95	
Viscosity Index	ASTM D 2270	-	155	
Pour Point	ASTM D 97	°C	-36	
Flash Point (COC)	ASTM D 92	°C	230	
Total Base Number	ASTM D 2896	mg KOH/g	8.4	
Phosphorous	ASTM D 4951	% wt	0.098	
CCS Viscosity	ASTM D 5293	cP	5650 @ -25 °C	

- API SM
- JASO MA 2
- JASO 4T Clutch performance

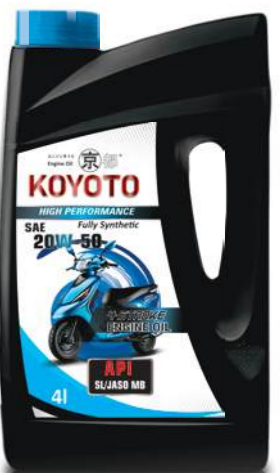


KOYOTO SAE 10W-40 SM/JASO MA2

Eiffel Presti Gold 4T 10W40 SM(JASO MA2) is designed with high quality synthetic blend base stocks and advanced technology additive system to provide high level of protection and performance. It works harder than other conventional motor oils by continuously preventing dirt and sludge build-up and reduces engine noise. This product meets the requirements of most motorcycle manufacturers and is suitable for use in 4 stroke gasoline engines, naturally aspirated or turbo charged engines, operating in all round seasons and adapted to vehicles equipped with catalytic converters running on unleaded fuels.

Eiffel Duramax Silver 4T	Test Method	Units	20W-50	
Density @ 15 °C	ASTM D 4052	gm/cc	0.890	
Viscosity @ 100 °C	ASTM D 445	cSt	20.4	
Viscosity @ 40 °C	ASTM D 445	cSt	175	
Viscosity Index	ASTM D 2270	-	136	
Pour Point	ASTM D 97	°C	-30	
Flash Point (COC)	ASTM D 92	°C	236	
Total Base Number	ASTM D 2896	mg KOH/g	7.8	
Phosphorous	ASTM D 4951	% wt	0.098	
CCS Viscosity	ASTM D 5293	cP	6060 @ -15 °C	

- API SL
- JASO MA
- JASO 4T Clutch performance



KOYOTO 10W-40 CK-4/SN

Eiffel Marvela Xtreme CK-4/SN series are advanced performance low-SAPS fully synthetic diesel engine oils formulated with severely refined base stocks and sophisticated technology additives to provide outstanding engine performance in the latest emission designs, including those with after treatment systems with Diesel Particulate Filters (DPF), Selective Catalytic Reduction (SCR) and Diesel Oxidation Catalyst (DOC). It may be used in both new and old diesel engines for On & Off highway applications, due to its backward compatibility down to CJ-4 specifications and may also be used in gasoline engines requiring the API SN specification. They are specifically formulated to deliver excellent wear and engine protection, extended drain capability with excellent TBN retention, outstanding high temperature performance and engine cleanliness.

Eiffel Marvela Xtreme	Test Method	Units	10W-30	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.865	0.870
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.4
Viscosity @ 40 °C	ASTM D 445	cSt	62.6	96
Viscosity Index	ASTM D 2270	-	155	155
Pour Point	ASTM D 97	°C	-39	-39
Flash Point (COC)	ASTM D 92	°C	215	225
Total Base Number	ASTM D 2896	mg KOH/g	9.6	9.6
Sulfated Ash	ASTM D 874	% wt	0.9	0.9
CCS Viscosity	ASTM D 5293	cP	6050 @ -25 °C	6200 @ -25 °C

- API CK-4, CJ-4, CI-4 Plus, CI-4, CH-4, CF, CF-2, SN, SM, SL
- ACEA E9/E7-16
- MTU OIL Category 2.1
- MACK EOS-4.5/FORD WSS -M2C171-F1
- Detroit Diesel Power Guard 93K222
- CUMMINS CES 20086
- Renault VI RLD-4
- Duetz DQC III-10 LA/JASO DH-2
- CAT ECF-3
- MB 228.31
- VOLVO VDS-4.5
- MAN 3275/3575

KOYOTO 5W-30 CI-4/SL

Eiffel Fabela Titanium CI-4 series uses fully synthetic technology base oil and balanced additive system to deliver fuel economy performance, and to protect modern engines operating under extreme conditions of pressures and temperatures. It's the ideal choice for operators of heavy duty truck and bus fleets equipped with latest emission designs, including those with EGR systems, as well as satisfying the needs of older engines. It may be used in naturally aspirated and turbocharged diesel and petrol engines, providing excellent protection even under the most severe conditions.

Eiffel Fabela Titanium	Test Method	Units	5W-30	5W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.848	0.850
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.30
Viscosity @ 40 °C	ASTM D 445	cSt	58.65	88.6
Viscosity Index	ASTM D 2270	-	169	168
Pour Point	ASTM D 97	°C	-39	-39
Flash Point (COC)	ASTM D 92	°C	215	228
Total Base Number	ASTM D 2896	mg KOH/g	11.0	11.0
Sulfated Ash	ASTM D 874	% wt	1.1	1.1
CCS Viscosity	ASTM D 5293	cP	4560 @ -30 °C	4650 @ -30 °C

- ACEA E7/E5/E3/A3/B4
- CATECF-1a, ECF-2
- MTU OIL Category 2
- VDS-3
- MANM3277
- CUMMINS CES 20076/7/20078
- MACK EO-M plus
- Renault VI RLD-2
- MB228.5

KOYOTO 15W-40 CK-4/SN

Eiffel Vista Xtreme 15W-40 CK-4/SN is an advanced performance low-SAPS semi-synthetic diesel engine oil formulated with severely refined base stocks and sophisticated technology additives to provide outstanding engine performance in the latest emission designs, including those with after treatment systems with Diesel Particulate Filters (DPF), Selective Catalytic Reduction (SCR) and Diesel Oxidation Catalyst (DOC). It may be used in both new and old diesel engines for On & Off highway applications, due to its backward compatibility down to CJ-4 specifications and may also be used in gasoline engines requiring the API SN specification. They are specifically formulated to deliver excellent wear and engine protection, extended drain capability with excellent TBN retention, outstanding high temperature performance and engine cleanliness.

Eiffel Vista Xtreme	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.875
Viscosity @ 100 °C	ASTM D 445	cSt	15.4
Viscosity @ 40 °C	ASTM D 445	cSt	120
Viscosity Index	ASTM D 2270	-	134
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Nu	ASTM D 2896	mg KOH/g	9.6
Sulfated Ash	ASTM D 874	% wt	0.9
CCS Viscosity	ASTM D 5293	cP	6500 @ -20 °C

- API CK-4, CJ-4, CI-4 Plus, CI-4, CH-4, CF, CF-2, SN, SM, SL
- CAT ECF-3
- MB 228.31
- VOLVO VDS-4.5
- MACK EOS-4.5/FORD WSS -M2C171-F1
- Detroit Diesel Power Guard 93K222
- CUMMINS CES 20086
- ACEA E9/E7-16
- MTU OIL Category 2.1
- MAN 3275/3575
- Renault VI RLD-4
- Duetz DQC III-10 LA/JASO DH-2

KOYOTO LA 10W-40 CI-4/SL

Eiffel Marvela Titanium LA 10W-40 CI-4 uses severely refined synthetic technology base oils and balanced additive system to deliver fuel economy performance, and to protect modern engines operating under extreme conditions of pressures and temperatures. It's the ideal choice for operators of heavyduty truck and bus fleets equipped with latest designs, including those with regulatory emission controlled systems like Diesel Particulate Filter (DPF) & suitable for longer oil drain intervals, as well as satisfying the needs of older engines. It may be used in naturally aspirated and turbocharged diesel and petrol engines, providing excellent protection even under the most severe conditions.

Eiffel Marvela Titanium LA	Test Method	Units	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.874
Viscosity @ 100 °C	ASTM D 445	cSt	15.7
Viscosity @ 40 °C	ASTM D 445	cSt	111
Viscosity Index	ASTM D 2270	-	150
Pour Point	ASTM D 97	°C	-36
Flash Point (COC)	ASTM D 92	°C	224
Total Base Number	ASTM D 2896	mg KOH/g	9.8
Sulfated Ash	ASTM D 874	% wt	0.9
CCS Viscosity	ASTM D 5293	cP	6200 @ -25 °C

- ACEA E7/E6/E4
- MTU OIL Category 3.1
- MAN M 3477
- MB 228.51 (v2012)
- Renault RXD
- Deutz IV-10 LA

KOYOTO 10W-40 CJ-4/SN

Eiffel Marvela Ultimate CJ-4/SN series is extra high performance diesel engine oil formulated with highly refined base stocks and advanced technology additives to provide reliable engine performance in the latest emission designs, including those with Exhaust Gas Recirculation (EGR) systems and after treatment systems with Diesel Particulate Filters (DPF) and Diesel Oxidation Catalyst (DOC), as well as satisfying the needs of older engines. It may be used in naturally aspirated and turbocharged diesel & petrol engines and On & Off highway applications, providing excellent protection even under the most strenuous conditions.

Eiffel Marvela Ultimate	Test Method	Units	10W-30	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.868	0.875
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	14.4
Viscosity @ 40 °C	ASTM D 445	cSt	62.6	96
Viscosity Index	ASTM D 2270	-	155	155
Pour Point	ASTM D 97	°C	-39	-39
Flash Point (COC)	ASTM D 92	°C	215	236
Total Base Number	ASTM D 2896	mg KOH/g	10.4	10.4
Sulfated Ash	ASTM D 874	% wt	1.0	1.0
CCS Viscosity	ASTM D 5293	cP	6050 @ -25 °C	6200 @ -25 °C

- API CJ-4, CI-4 Plus, CI-4, CH-4, CF, CF-2, SM, SL
- CAT ECF-3
- ACEA E9/E7
- MB 228.31
- MTU OIL Category 2.1
- MACK EO-O Premium Plus
- CUMMINS CES 20081
- VOLVO VDS-4
- Detroit Diesel Power Guard 93K218

KOYOTO 15W-40 CI-4/SL

Eiffel Vista Titanium CI-4/SL series is a range of high performance diesel engine oils formulated with highly refined semi-synthetic base stocks and advanced technology additives to provide reliable performance in the latest emission designs, including those with EGR systems, as well as satisfying the needs of older engines.

Eiffel Vista Super Titanium	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.884
Viscosity @ 100 °C	ASTM D 445	cSt	15.4
Viscosity @ 40 °C	ASTM D 445	cSt	120
Viscosity Index	ASTM D 2270	-	134
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	12.0
Sulfated Ash	ASTM D 874	% wt	1.25
CCS Viscosity	ASTM D 5293	cP	6000 @ -20 °C

- API CI-4, CH-4, CG-4, CF-4, CF, SL, SJ
- ACEA E7/A3/B4
- CAT ECF-1a, ECF-2/ VOLVO VDS-3
- MTU OIL Category 2
- MAN M3275/MACK EO-M PLUS
- Detroit Diesel 93K215
- CUMMINS CES 20076/7/20078
- Deutz DQC -III-05/ MACK EO-N
- Global DHD-1/ Renault VI RLD-2
- MB 228.3/MB 229.1

15W-40 CI-4/SL has the following builder approvals:

- VOLVO VDS-3
- MACK EO-N
- Renault VI RLD-2

KOYOTO 10W-40 CI-4/SL

Eiffel Marvela Titanium CI-4/SL series uses selected synthetic technology base oils and balanced additive system to deliver fuel economy performance, and to protect modern engines operating under extreme conditions of pressures and temperatures. It's the ideal choice for operators of heavy-duty truck and bus fleets equipped with latest emission designs, including those with EGR systems, as well as satisfying the needs of older engines.

Eiffel Marvela Titanium	Test Method	Units	10W-30	10W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.868	0.874
Viscosity @ 100 °C	ASTM D 445	cSt	10.4	15.5
Viscosity @ 40 °C	ASTM D 445	cSt	62.6	106
Viscosity Index	ASTM D 2270	-	155	155
Pour Point	ASTM D 97	°C	-39	-39
Flash Point (COC)	ASTM D 92	°C	215	220
Total Base Number	ASTM D 2896	mg KOH/g	12.4	12.4
Sulfated Ash	ASTM D 874	% wt	1.3	1.3
CCS Viscosity	ASTM D 5293	cP	6050 @ -25 °C	6200 @ -25 °C

- API CI-4, CH-4, CG-4, CF-4, CF, SL, SJ
- Global DHD-1
- ACEA E7/E5/E3/A3/B4
- CUMMINS CES 20076/7/20078
- MACK EO-M plus
- Renault VI RLD-2
- CAT ECF-1a, ECF-2
- MTU OIL Category 2
- VOLVO VDS-3

EFFEL MARVELA TITANIUM 10W-40 CI-4/SL HOLDS THE FOLLOWING BUILDER APPROVALS:

- MAN M 3277
- MB-Approval 228.5

KOYOTO 15W-40 CJ/SN

Eiffel Vista Ultimate 15W-40 CJ-4/SN is extra high performance diesel engine oil formulated with highly refined base stocks and advanced technology additives to provide reliable engine performance in the latest emission designs, including those with Exhaust Gas Recirculation (EGR) systems and after treatment systems with Diesel Particulate Filters (DPF) and Diesel Oxidation Catalyst (DOC), as well as satisfying the needs of older engines. It may be used in naturally aspirated and turbocharged diesel & petrol engines and On & Off highway applications, providing excellent protection even under the most strenuous conditions.

Eiffel Vista Ultimate	Test Method	Units	15W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.884
Viscosity @ 100 °C	ASTM D 445	cSt	15.4
Viscosity @ 40 °C	ASTM D 445	cSt	120
Viscosity Index	ASTM D 2270	-	134
Pour Point	ASTM D 97	°C	-33
Flash Point (COC)	ASTM D 92	°C	230
Total Base Number	ASTM D 2896	mg KOH/g	9.2
Sulfated Ash	ASTM D 874	% wt	0.9
CCS Viscosity	ASTM D 5293	cP	6000 @ -20 °C

- API CJ-4, CI-4 Plus, CI-4, CH-4, CF, CF-2, SM, SL
- CAT ECF-3
- MB 228.31
- VOLVO VDS-4
- Detroit Diesel Power Guard 93K218
- ACEA E9/E7
- MTU OIL Category 2.1
- MACK EO-O Premium Plus
- CUMMINS CES 20081

KOYOTO HiPower Hyd HVI series

KOYOTO HiPower Hyd HVI range of lubricants are high viscosity index anti-wear hydraulic fluids formulated with high quality HVI base stocks and advanced anti-wear additive technology. They are designed to work efficiently in hydraulic & fluid power transmission systems, subjected to wide temperature ranges operating under severe conditions. These oils are available in ISO

KOYOTO HiPower Hyd HVI	Test Method	Units	15	22	32	46	68	100	150
ISO Viscosity Grade	ISO 3448	-	15	22	32	46	68	100	150
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.864	0.870	0.878	0.880	0.887	0.894
Viscosity @ 40 °C	ASTM D 445	cSt	15.6	22.9	32.4	46.8	68.9	100.8	150.2
Viscosity @ 100 °C	ASTM D 445	cSt	3.99	5.12	6.46	8.41	11.27	13.21	16.85
Viscosity Index	ASTM D 2270	-	161	160	156	156	156	128	120
Pour Point	ASTM D 97	°C	-39	-39	-36	-36	-36	-33	-33
Flash Point (COC)	ASTM D 92	°C	202	204	224	230	234	246	252
Copper Strip Corrosion	ASTM D 130	-	1A	1A	1A	1A	1A	1A	1A
Rust Characteristics Proc B	ASTM D 665	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Seq I,II,III	ASTM D 892	ml/ml	20/0	20/0	20/0	20/0	20/0	20/0	20/0
Demulsibility, 40/40/0	ASTM D 1401	min	10	10	15	20	20	25	30
TAN, mg KOH/g	ASTM D 2896	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6

- DIN 51524 Part 3 HVLP type
- Denison HF-0, HF-2 (T6H20C)
- Cincinnati Machine P68, P69, P70
- ISO 6743/4 HV
- VICKERS M-2950S, -I-286
- VICKERS 35VQ25, 104C

KOYOTO Transfluid STOU/UTTO series

KOYOTO Transfluid STOU/UTTO series are extra high performance multipurpose tractor lubricants formulated from highly refined base stocks and advanced technology additive system, to meet or exceed exceed transmission and hydraulic fluid requirements. These oils are engineered to deliver the varied lubricant agricultural and construction equipment drive trains. Moreover it is particularly well suited for reducing wet brake and Power Take-Off (PTO) chatter.

KOYOTO Transfluid STOU/UTTO	Test Method	Units	10W30	15W-40	20W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.870	0.875	0.888
Viscosity @ 40 °C	ASTM D 445	cSt	59	103	107
Viscosity @ 100 °C	ASTM D 445	cSt	9.6	14.30	14.30
Viscosity Index	ASTM D 2270	-	146	142	136
Pour Point	ASTM D 97	°C	-39	-36	-33
Flash Point (COC)	ASTM D 92	°C	212	225	230
CCS Viscosity	ASTM D 5293	cP	5550 @ -25 °C	6000 @ -20 °C	6020 @ -15 °C
Zinc	ASTM D 4951	%wt	0.12 (Min) - 0.19 (max)	0.12 (Min) - 0.19 (max)	0.12 (Min) - 0.19 (max)

- Engine Oil Specifications:**
- API CG-4, CF-4, CF, CE/SF, CD/SF, CD/SE
 - MB 228.1/227.1 & ACEA E3
- Hydraulic Oil Specifications:**
- Sperry Vickers/Eaton: M2950S/I-280-S
- STOU Specifications:**
- ZF TE-ML 06A, 06B, 06C, 07B/John Deere J2
 - Ford M2C159B, C/New Holland 82009201,2,3
 - Massey Ferguson: M1139,44,45

- UTTO Specifications:**
- API GL-4/ Allison C-4/ Caterpillar TO-2
 - Massey Ferguson: M1135,43,45
 - John Deere J20C/J20D
 - Ford M2C134D/ M2C86B,C
 - JI Case/Case Int: MS 1204,6,7,9
 - CNH MAT 3525 3526

KOYOTO HiPower Hyd HVI ZF series

KOYOTO HiPower Hyd HVI ZF range of lubricants are high viscosity index Zinc Free Ashless anti-wear hydraulic fluids formulated with high quality HVI base stocks and advanced very low ash anti-wear additive technology. They are designed to work efficiently in hydraulic & fluid power transmission systems, subjected to wide temperature ranges operating under severe conditions. These oils are available in ISO viscosity grades from 15 to 150. Moreover, they are also designed to work in systems where high hydrolytic stability is required, even in presence of high moisture content in hydraulic systems.

KOYOTO HiPower Hyd HVI ZF	Test Method	Units	15	22	32	46	68	100	150
ISO Viscosity Grade	ISO 3448	-	15	22	32	46	68	100	150
Density @ 15 °C	ASTM D 4052	gm/cc	0.84	0.86	0.870	0.878	0.880	0.887	0.894
Viscosity @ 40 °C	ASTM D 445	cSt	15.6	22.9	32.4	46.8	68.9	100.8	150.2
Viscosity @ 100 °C	ASTM D 445	cSt	3.99	5.12	6.46	8.41	11.27	13.21	16.85
Viscosity Index	ASTM D 2270	-	161	160	156	156	156	128	120
Pour Point	ASTM D 97	°C	-39	-39	-36	-36	-36	-33	-33
Flash Point (COC)	ASTM D 92	°C	202	204	224	230	234	246	252
Copper Strip Corrosion	ASTM D 130	-	1A	1A	1A	1A	1A	1A	1A
Rust Characteristics Proc B	ASTM D 665	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Seq I,II,III	ASTM D 892	ml/ml	20/0	20/0	20/0	20/0	20/0	20/0	20/0
Demulsibility, 40/40/0	ASTM D 1401	min	10	10	15	20	20	25	30
TAN, mg KOH/g	ASTM D 2896	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6

- DIN 51524 Part 3 HVLP type
- Denison HF-0, HF-2 (T6H20C)
- Cincinnati Machine P68, P69, P70
- ISO 6743/4 HV
- VICKERS M-2950S, -I-286
- VICKERS 35VQ25, 104C

KOYOTO HiPower Hyd ZF series

KOYOTO HiPower Hyd ZF range of lubricants are supreme performance Zinc Free Ashless anti-wear hydraulic oils formulated with high quality base stocks and advanced additive technology. They are designed to work efficiently in hydraulic systems operating under severe conditions, where high levels of anti-wear and oil film strength protection are desired. Moreover they are also designed to work in systems where high hydrolytic stability is required, even in presence of high moisture content in hydraulic systems.

KOYOTO HiPower Hyd ZF	Test Method	Units	10	22	32	46	68	100	150
ISO Viscosity Grade	ISO 3448	-	10	22	32	46	68	100	150
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.864	0.870	0.878	0.880	0.887	0.894
Viscosity @ 40 °C	ASTM D 445	cSt	10.0	22.9	32.4	46.8	68.9	100.8	150.2
Viscosity @ 100 °C	ASTM D 445	cSt	2.67	4.4	5.38	6.78	8.72	11.15	14.56
Viscosity Index	ASTM D 2270	-	102	100	98	98	95	95	95
Pour Point	ASTM D 97	°C	-30	-30	-27	-27	-21	-21	-18
Flash Point (COC)	ASTM D 92	°C	202	204	224	230	234	246	272
Copper Strip Corrosion	ASTM D 130	-	1A	1A	1A	1A	1A	1A	1A
Rust Characteristics Proc B	ASTM D 665	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Seq I,II,III	ASTM D 892	ml/ml	10/0	10/0	10/0	10/0	10/0	10/0	10/0

- Cincinnati Milacron P68, P69, P70
- Denison HF-0 (T6H20C)
- ISO 11158 (HM fluids)
- VICKERS M-2950S, -I-286

KOYOTO HiPower Hyd AW series

KOYOTO HiPower Hyd AW range of lubricants are supreme performance anti wear hydraulic oils formulated with high quality base stocks and balanced additive technology. They are designed to work efficiently in hydraulic systems operating under severe conditions, where high levels of anti-wear and oil film strength protection are desired. Moreover they are also designed to work in system where non anti-wear hydraulic oils are generally recommended.

KOYOTO HiPower Hyd AW	Test Method	Units	15	22	32	46	68	100	150
ISO Viscosity Grade	ISO 3448	-	15	22	32	46	68	100	150
Density @ 15 °C	ASTM D 4052	gm/cc	0.845	0.864	0.870	0.878	0.880	0.887	0.894
Viscosity @ 40 °C	ASTM D 445	cSt	15.6	22.9	32.4	46.8	68.9	100.8	150.2
Viscosity @ 100 °C	ASTM D 445	cSt	3.5	4.4	5.38	6.78	8.72	11.15	14.56
Viscosity Index	ASTM D 2270	-	100	100	98	98	95	95	95
Pour Point	ASTM D 97	°C	-39	-30	-27	-27	-21	-21	-18
Flash Point (COC)	ASTM D 92	°C	202	204	224	230	234	246	272
Copper Strip Corrosion	ASTM D 130	-	1A	1B	1B	1B	1B	1B	1B
Rust Characteristics Proc B	ASTM D 665	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Seq I,II,III	ASTM D 892	ml/ml	20/0	20/0	20/0	20/0	20/0	20/0	20/0

- DIN 51524 Part 2 HLP type
- Denison HF-0 (T6H20C)
- ISO 11158 (HM fluids)
- VICKERS M-2950S, -I-286

KOYOTO Trans HD series

KOYOTO Trans HD series is a range of extra high performance transmission and drive train oils, formulated with high excellence quality base stocks and advanced additive system to meet or exceed the requirements of Caterpillar TO-4 specification. Suitable to provide heavy duty performance benefits in power shift in transmissions, gearboxes, final drives and high pressure hydraulic applications. It helps in maximizing the productivity in construction, quarrying and mining equipment operating under severe conditions.

KOYOTO Trans HD	Test Method	Units	10W	30	50	60
Density @ 15 °C	ASTM D 4052	gm/cc	0.880	0.892	0.904	0.910
Viscosity @ 100 °C	ASTM D 445	cSt	5.6	11.6	20.5	25.6
Viscosity @ 40 °C	ASTM D 445	cSt	35	108	254	356
Viscosity Index	ASTM D 2270	-	96	95	95	95
Pour Point	ASTM D 97	°C	-33	-18	-12	-12
Flash Point (COC)	ASTM D 92	°C	214	230	242	242

- API GL-4/ Allison C-4
- Caterpillar TO-4/TO-4M/TO-2
- Komatsu KES 07.868.1
- Suitable Hydraulics and Wet Brakes
- Sperry Vickers/Eaton: M2950S, I-280-S

KOYOTO Trans STOU/UTTO series

KOYOTO Transfluid STOU/UTTO series are extra high performance multi-purpose tractor lubricants formulated from highly refined base stocks and advanced technology additive system, to meet or exceed transmission and hydraulic fluid requirements. These oils are engineered to deliver the varied lubricant performance properties required in severe duty applications of agricultural and construction equipment drive trains. Moreover it is particularly well suited for reducing wet brake and Power Take-Off (PTO) chatter.

KOYOTO Transfluid STOU/UTTO	Test Method	Units	10W30	15W-40	20W-40
Density @ 15 °C	ASTM D 4052	gm/cc	0.870	0.875	0.888
Viscosity @ 40 °C	ASTM D 445	cSt	59	103	107
Viscosity @ 100 °C	ASTM D 445	cSt	9.6	14.30	14.30
Viscosity Index	ASTM D 2270	-	146	142	136
Pour Point	ASTM D 97	°C	-39	-36	-33
Flash Point (COC)	ASTM D 92	°C	212	225	230
CCS Viscosity	ASTM D 5293	cP	5550 @ -25 °C	6000 @ -20 °C	6020 @ -15 °C
Zinc	ASTM D 4951	%wt	0.12 (Min) - 0.19 (max)	0.12 (Min) - 0.19 (max)	0.12 (Min) - 0.19 (max)

- UTTO Specifications:**
- API GL-4/ Allison C-4/ Caterpillar TO-2
 - Massey Ferguson: M1135,43,45
 - John Deere J20C/J20D
 - Ford M2C134D/ M2C86B,C
 - JI Case/Case Int: MS 1204,6,7,9
 - CNH MAT 3525,3526

- STOU Specifications:**
- ZF TE-ML 06A, 06B, 06C, 07B/John Deere J2
 - Ford M2C159B, C/New Holland 82009201,2,3
 - Massey Ferguson: M1139,44,45
- Engine Oil Specifications:**
- API CG-4, CF-4, CF, CE/SF, CD/SF, CD/SE
 - MB 228.1/227.1 & ACEA E3
- Hydraulic Oil Specifications:**
- Sperry Vickers/Eaton: M2950S/I-280-S

KOYOTO Xtreme Protect Grease EP series

KOYOTO EP series are high performance greases, formulated with lithium complex based thickeners, high viscosity index base oils and extreme pressure additive system to provide excellent protection against wear, rusting and water washout. They are available in NLGI grades ranging from 00 to 3 with base oil viscosity of ISO VG 220. They are suitable for most types of Automotive and Industrial applications, including heavy-duty Marine applications where high temperatures, heavy loads and extreme unit pressures are present. EP 1, 2, 3 & 2 Molygreases are suitable for operating temperatures range from -20°C to 140°C, while EP 00 & 0 greases are suitable for operating temperatures range from -25°C to 130°C.

KOYOTO Xtreme Protect Grease EP	Test Method	Units	EP 2	EP 3
NLGI Grade	ASTM D 217	--	2	3
Thickener Type	--	--	Lithium Complex	Lithium Complex
Penetration, Worked @ 25 °C	ASTM D 217	0.1mm	265-295	220-250
Viscosity @ 40 °C	ASTM D 445	cSt	220	220
Dropping Point	ASTM D 566	°C	230 (min)	230 (min)
4-Ball Wear, Scar	ASTM D 2266	mm	0.4	0.4
4-Ball Weld Load	ASTM D 2596	Kg	315	315

- DIN 51502: KP2N-20
- ISO 6743-9: L-XBEB-2/3

