

# EMIRATES<sup>1</sup>

Lubrication Redefined



A LEADING  
MANUFACTURER  
AND SUPPLIER OF

## LUBRICANTS & GREASES



# AN INTEGRATED LUBRICANTS AND ENERGY COMPANY WITH GLOBAL PRESENCE

## About Us

Emirates International Lubricants Ind. LLC was established about a decade and a half ago in the oil and petrochemical hub of UAE with a global vision and quality centric approach to products and services. We are a leading manufacturer and supplier of lubricants and petrochemical products across several key markets in Asia, Africa, Europe and North America.

Our products under the brand name **Emirates1** today move across more than 30 countries in the world and have tremendous brand recall and recognition in the markets we have a presence in.

As of today we are strategically placed in some of the most important business hubs of the world to serve our customers better while continuing to build lasting partnerships with our stakeholders. We have operations in the UAE, UK and Canada covering up major markets in Asia, Europe and North America.

Quality and value addition are at the heart of our operations and we continually strive to build and deliver value to our customers in the form of product excellence, cost, delivery and unrivalled after sales support. Our manufacturing facilities are **ISO 9001:2008, ISO 14001:2015, OHSAS 18001** certified



which is a testament to our focus on processes and standards. Our processes and practices are environment friendly with a long term focus on sustainability.

Our products have approvals from most original equipment manufacturers (OEM's) along with being certified by the American Petroleum Institute (API). We have a robust and well equipped laboratory which helps us stay ahead with our research on new products and solutions while also helping us maintain our quality standards with a six sigma like efficiency.

We work in close partnerships with our suppliers of base oils and additives to closely monitor the inputs going in our products. It also helps us stay in sync with the latest technologies and deliver new and improved products and solutions while ensuring a strong focus on quality and controls.

We invite you to join us in this journey towards excellence and experience our industry leading and highly competitive products and services.



## Group Companies

**Emirates Petroleum Limited, Canada**

**Emirates Petroleum London Limited, UK**

**Emirates International Lubricants Industries LLC, UAE**



### Vision

Our Vision is to be an integrated lubricants and energy company with global presence and top of the mind brand recall in the segments and markets we are present

### Mission

Our Mission is to achieve and sustain a high level of customer satisfaction through the delivery of quality, innovative and competitive products and services while adding value to all our stakeholders

We have a state of the art production facility located in Ajman in the United Arab Emirates (UAE). We have a combined capacity of producing 28000 MT of lubricants and Greases per annum. We manage a process driven and efficient operation and our facilities are **ISO 9001: 2008, ISO 14001:2015 and OHSAS 18001:2007** certified. Our blending and filling processes are highly automated and we have the capability to blend multiple grades simultaneously. We have the infrastructure for small pack (1L, 4L, 5L, 500gms, 1Kg) and also for automated filling of Pails and Drums.



The laboratory is at the heart of a high quality and innovative lubricants manufacturing setup. We have a well-equipped and modern laboratory with all the required testing equipment and machinery to help us innovate and maintain our high quality standards. Our labs are equipped with the latest equipment for oil analysis and grease testing such as viscometer bath, automatic flash point test, ICP, FTIR, pour point, color comparator, densitometer and grease testing equipment such as four ball (scar and weld test), penetrometer (worked & unworked), drop point, roll stability, water wash, oil separation etc. helping us test and develop our products to International standards. We also provide for oil analysis and monitoring programs to end users and customers. Our team of technicians monitor the production process at all stages with multiple levels of tests and checks to ensure optimum efficiency and quality.



# Approvals

We have a large portfolio of our premium products approved and certified by the American Petroleum Institute (API) as well as some of the major Original Equipment Manufacturers (OEM's). These approvals are a testament to our technological capabilities and our focus on meeting and exceeding the highest industry standards.

## Our main OEM approvals:

Volvo VDS-4.5, Renault RLD-4, MB 228.31, ECF-3, BMW LL-01/04, BMW Longlife-01, GM Dexos 2, Porsche A40, VW/Audi 502.00/505.00, RN 0700 / RN 0710, MB 229.3 and many more.



## Locations & operations

From the middle east to some of the most strategic business and commercial centers of the world, we have expanded our footprints globally in our quest to stay closer to our customers and markets.

Our products have a truly global reach and are sold in around 30 countries. We now have operations across 3 continents with major presence in the UAE, UK and Canada. Our focus is to listen closely to the pulse of the markets and the feedback from our customers to enable us to consistently add value and improve upon our products and services.



## Product Catalogue



**Automotive Lubricants**



**Gear / Transmission Lubricants**



**Specialty Lubricants**



**Greases**



**Marine Lubricants**



**Industrial Lubricants**

**Note:** The information on the following Product Data Sheets is believed to be accurate and is typical of current production. Specifications are subject to change without notice. For additional queries, please contact Emirates1 Technical Service Department.

**Health and Safety:** Based on available information, these products are not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS). Material Safety Data Sheets are available on request.

# EMIRATES1 MX 12 SUPER SUPREME

(Engine Oils Formulated with 100% Fully Synthetic Oil)

## Description

**Emirates1 MX 12** is manufactured using the highest quality fully synthetic base oils with suitable additive technology, to ensure a product with an outstanding performance. Ultra-low viscosity oil for greater engine response and fuel efficiency. It is best suited for use in modern light running, low emission engines with tight tolerances. Emirates1 MX 12 is designed to provide optimum performance in high-output gasoline (including turbocharged and supercharged) engines in passenger cars, vans, sport utility vehicles, and light trucks. The new technology incorporated in this latest generation lubricant enables it to exceed manufacturers' performance requirements.

## Applications

**Emirates1 MX 12** motor oils are designed for naturally aspirated gasoline engines, LPG and diesel engines in passenger cars, light truck gasoline and diesel engines, gasoline and diesel powered RV and SUVs(Sport Utility Vehicles), Common Rail Direct Injection engines in passenger cars, passenger cars with high speed, four-stroke, turbocharged and EGR, DPF, Hybrids, four-stroke gasoline engines and portable power equipment, high performance engines under most operating conditions, from mild to extreme.

## Performance Features and Benefits

- Longer intervals between oil changes
- Easier starts in very cold weather
- Excellent engine cleanliness and protection
- Excellent engine protection, particularly against wear of the distribution system
- Extends engine life
- Lower impact emissions
- Delivers unsurpassed levels of protection across a variety of driving conditions and temperatures

## Recommendations/Specifications

### Quality Level:

API SN Plus, SN, SN/CJ-4, SN/CF, SM, SM/CF, SL, SL/CF (Resource Conserving); ILSAC GF-5, GF-4; ACEA C3, C2, A5/B5, A3/B4, A3/B3; JASO

### Meets or exceeds:

MB-229.51/229.31, PORSCHE A40, Opel GM-LL-B-025, Opel GM-LL-A-025, BMW LL-01/LL-04 Renault RN0700 / RN0710, VW/Audi 502.00/505.00/505.01, Dexos 2, Fiat 9.55535-SI, Ford WSS- M2C946/937/929-A, Chrysler 6395, GM 6094M/ 4718M, Honda HTO. Meets quality requirements of most gasoline engine manufacturers in the USA, UK, Canada, Europe, & Japan

## Typical Technical properties

Viscosity Grade, SAE J300	0W-20	0W-30	0W-40
Density at 15°C, g/ml, ASTM D4052	0.840	0.845	0.846
Cold Cranking Viscosity(CCS), mPa s, ASTM D5293	5400@-35°C	5650@-35°C	5880@-35°C
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	44.35	60.5	77.75
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	8.7	11.2	13.8
Viscosity Index, ASTM D2270	180	182	184
Flash Point(COC), °C, ASTM D92	224	226	228
Pour Point, °C, ASTM D97	-51	-51	-45
Total Base Number, mg KOH/g, ASTM D2896	8.8	8.8	9.0
Sulphated Ash, %wt, ASTM D874, max	0.85	0.85	0.90

## Available in

Cartons: 12 x 1L, 24 x 1L, 4 x 5L, 6 x 4L, 6 x 5L, Pails: 18.9L, 20L & 25L, Drums: 200L, 208L



# EMIRATES1 MX 11 SUPREME

(Engine Oils Formulated with 100% Fully Synthetic Oil)

## Description

**Emirates1 MX 11 Supreme** are high performance fully synthetic motor oils, formulated with synthetic base oils and advance additives to meet the demands of the high RPM fuel efficient engines. These engines experience higher operating temperatures and require motor oil which offers maximum protection against both viscosity and thermal breakdown. It is fortified with detergent-dispersants and rust and corrosion inhibitors to keep engines exceptionally clean and free of sludge, varnish and rust.

## Applications

**Emirates1 MX 11 Supreme** motor oils are recommended for many types of modern vehicles where it helps provide unsurpassed performance even under very demanding driving conditions. Extensive cooperative development work with major manufacturers and the application of the latest lubrication technology make them suitable for the latest engine technologies including Turbo-chargers, Direct Injection, Diesels (without DPF) and Hybrids, high performance engines under most operating conditions, from mild to extreme.

## Performance Features and Benefits

- Maximizes engine life
- Low oil consumption
- Excellent engine cleanliness and protection
- Protection from oil-related engine failure
- High resistance to 'shear' and viscosity loss in high stress areas.
- Maximizes power and performance
- Lower impact emissions
- Exceptional resistance to oxidation
- Delivers unsurpassed levels of protection across a variety of driving conditions and temperatures
- Outstanding cold flow properties for reduced wear at start up

## Recommendations/Specifications

### Quality Level:

API SN, SN/CJ-4, SN/CF, SM, SM/CF, SL, SL/CF (Resource Conserving); ILSAC GF-5, GF-4; ACEA C3, C2, A5/B5, A3/B4, A3/B3; JASO

### Meets or exceeds:

MB-229.5/229.3, Porsche A40/C30, Opel GM-LL-A/B-025, BMW LL-01/LL-04, Renault RN0700 /RN0710, VW/Audi 504.00/507.00/505.01, Dexos 2, FIAT 9.55535-S3, Nissan GT-R, Chrysler 6395, Ford WSS-M2C946/937/917-A, GM 6094M/ 4718M, Lexus LFA Service Fill, PSA Peugeot. Meets quality requirements of most gasoline engine manufacturers in the USA, UK, Canada, Europe & Japan.

## Typical Technical properties

Viscosity Grade, SAE J300	5W-20	5W-30	5W-40	10W-30
Density at 15°C, g/ml, ASTM D4052	0.845	0.850	0.855	0.860
Cold Cranking Viscosity(CCS), mPa s, ASTM D5293	5640@-30°C	6050@-30°C	6400@-30°C	6600@-25°C
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	43.80	63.55	83.15	66.30
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	8.5	11.3	14.2	11.5
Viscosity Index, ASTM D2270	176	174	178	170
Flash Point(COC), °C, ASTM D92	224	230	226	230
Pour Point, °C, ASTM D97	-48	-45	-45	-39
Total Base Number, mg KOH/g, ASTM D2896	9.0	9.5	10.1	10.1
Sulphated Ash, %wt, ASTM D874, max	0.90	0.95	1.00	1.10

## Available in

Cartons: 12 x 1L, 24 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails: 18.9L, 20L & 25L Drums: 200L, 208L, 210L



# EMIRATES1 MX 10 PRIME

(Semi Synthetic Engine Oils)

## Description

**Emirates1 MX 10 Prime** is a superior quality semi synthetic multi grade oil, formulated with highly refined base stocks and the best additive technology. Emirates1 MX 10 prime oil is a modern high technology based engine oil meeting the latest API performance specification. Developed to provide maximum protection for use in modern passenger cars including low emission engines and high performance vehicles.

## Applications

**Emirates1 MX 10 Prime** motor oils are formulated to give you confidence of protection beyond conventional oils. Particularly recommended for latest gasoline engine technologies, passenger cars, SUV's, light trucks and vans stop and go city driving, normal to severe operating conditions, turbo-chargers & high performance engines.

## Performance Features and Benefits

- Superior engine protection during start up
- Superior engine wear protection
- Minimizes sludge formation
- Reduces wear by controlling soot deposits
- Extension of engine's lifetime
- Reduces high temperature engine deposits
- Reduces wear due to use of advance base oils
- Can be used in both Diesel & LPG engines
- Provides improved fuel economy
- Suitable for hydraulically actuated injectors
- Safe for wet clutch motorcycles
- Delivers unsurpassed levels of protection across a variety of driving conditions and temperatures

## Recommendations/Specifications

### Quality Level:

API SM, SM/CI-4, SM/CF, SL, SL/CF; ACEA A3/B4, A3/B3; JASO MA/MB.

### Meets or exceeds:

Ford, GM, PSA, BMW, VW, Audi and Mercedes-Benz

Meets quality requirements of most gasoline engine manufacturers in the USA, UK, Canada, Europe, and Japan

## Typical Technical properties

Viscosity Grade, SAE J300	10W-40	15W-40	20W-50
Density at 15°C, g/ml, ASTM D4052	0.865	0.875	0.880
Cold Cranking Viscosity(CCS), mPa s, ASTM D5293	6600@-25°C	6800@-20°C	7900@-15°C
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	86.8	106.4	153.9
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	13.6	15.3	19.3
Viscosity Index, ASTM D2270	160	152	144
Flash Point(COC), °C, ASTM D92	222	228	232
Pour Point, °C, ASTM D97	-36	-30	-27
Total Base Number, mg KOH/g, ASTM D2896 (Max)	9.6	9.6	9.6

## Available in

Cartons: 12 x 0.7L, 12 x 1L, 24 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails: 18.9L, 20L & 25L Drums: 200L, 208L, 210L



# EMIRATES1 GAS / RAILROAD ENGINE OILS

(Heavy Duty Gas & Railroad Engine Oils)

## Description

**Emirates1 Gas Engine Oils** are advanced, heavy duty, high performance engine oils recommended for modern naturally aspirated and turbocharged four-stroke engines in on-road applications running on natural gas and LP gas. Premium formulation components minimize the co-efficient of friction between moving parts inside an engine promoting energy conservation and potential fuel economy savings through reduced viscous drag, easier engine starts, and reduced need for warm-up idling.

**Emirates1 Railroad Engine Oils** are advanced, ash-less, heavy duty engine oil specifically designed for large diesel engines in railroad, marine, and power generation applications.

## Applications

Typical applications for **Emirates1 Gas Engine Oils** include (but are not limited to) current on-road low emission heavy duty natural gas and LP gas engine designs, current off-highway heavy duty natural gas engines in stationary or mobile equipment such as generators and pumps in construction, agriculture, marine, and mining applications.

**Emirates1 Railroad Engine Oils** meet the requirements of the latest specifications and are designed for use in heavy duty 2 & 4 stroke diesel engines where zinc-free engine oil is required. Such applications include a range of railroad, inland, off-shore marine and stationary engines in power generation.

## Recommendations/Specifications

**Gas Engine Oils** meet or exceeds: SAE 15w-40 (Cummins® - CES 20074, Detroit Diesel® - PGOS 93K216, Waukesha – Class A (up to 1000 cubic inches), Ingersoll Rand – Class I, II natural gas, Caterpillar – where multi-grade is recommended Clark, Climax, Cooper-Bessemer, Fairbanks-Morse, Roline, International Harvester – where API SF is specified) & SAE 40 (Caterpillar (3300, 3400, 3500, 3600 Series), Cummins Rio-Grande, Dresser-Rand (Categories I, II, and III), Fairbanks Morse, GE Jenbacher, MWM (DEUTZ), MAN Co-gen, Minneapolis-Moline, Rolls Royce, Stewart & Stevenson, Superior, Wärtsilä SACM 150/175, Waukesha Co-gen, White, Worthington

**Rail road Engine Oils** meet or exceeds EMD (GM Electro-Motive Division) engines where zinc free oils are mandatory for the protection of silver bearings, LMAO Generation, 4, 5 and 6, GE Generation 4 Long-Life & API CF performance

## Typical Technical properties

	GAS ENGINE OILS		RAILROAD OILS	
Viscosity Grade, SAE J300	15W-40	40	20W-40	40
Density at 15°C, g/ml, ASTM D4052	0.875	0.882	0.870	0.875
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	118	143	117	125
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	15.2	14.5	14.1	13.6
Viscosity Index, ASTM D2270	135	100	125	105
Flash Point(COC), °C, ASTM D92	220	230	220	230
Pour Point, °C, ASTM D97	-30	-18	-27	-18
Cold Cranking Viscosity(CCS), mPa s, ASTM D5293	6600@-20°C	-	-	-
Total Base Number, mg KOH/g, ASTM D2896 (Max)	5.2	5.1	9.0	9.0
Sulfated Ash, wt %,ASTM D874	0.50	0.48	-	-
Zn, wt %,ASTM D5185	-	-	<0.001	<0.001

## Available in

Cartons: 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L   Pails: 18.9L, 20L & 25L   Drums: 200L, 208L, 1000L



# EMIRATES1 DX 10 ULTRA

(Heavy Duty Synthetic Engine Oils)

## Description

Emirates1 DX 10 ULTRA is a high performance, synthetic heavy duty, mixed fleet engine oil recommended for naturally aspirated and turbocharged diesel and gasoline engines in which SAE 15W-40, 10w-30 viscosity grade and API CK-4 or SN service categories are specified.

## Applications

Emirates1 DX 10 Ultra Synthetic Heavy Duty Engine Oil is designed specifically to meet the stringent requirements of API service category CK-4 for heavy duty diesel engines running on Ultra Low Sulfur Diesel (ULSD) and equipped with advanced after treatment devices. Exceeds all soot control and particulate requirements of current emission control systems such as Exhaust Gas Recirculation (EGR), Diesel Particulate Filter (DPF), or Selective Catalytic Reduction (SCR).

## Performance Features and Benefits

- Excellent all-season performance characteristics.
- Fully compliant with all current emission control Equipment. promotes extended DPF life helping to minimize maintenance costs
- Advanced additive technology keeps internal engine components clean, reduces oil consumption for long service life.
- Outstanding TBN and high viscosity retention supports extended lubricant life.

## Recommendations/Specifications

### Quality Level:

CK-4, CJ-4, CI-4 PLUS, CI-4, SN, SM, SL (& previous); ACEA – E9, E7, E4 & E2; JASO – DH-2

### Meets or exceeds:

Caterpillar® – ECF-3, ECF-2, and ECF-1a; Cummins® – CES 20086, 20081, 20078, 20077, 20076; Daimler – MB 228.31, 228.3; Detroit Diesel® – 93K222, 93K218, 93K215, 93K214; Deutz – DQC III-IOLA; FORD – WSS-M2C171-F1, WSS-M2C171-E; Global – DHD-1; JASO – DH-2; Mack® – EOS-4.5, EO-O Premium Plus, EO-Premium Plus, and EO-M; MAN – 3275, 3575; MTU – Type 2.1, Type I, Type II; Renault® – VI RLD-4, RLD-3; Volvo® – VDS-4.5, VDS-4, VDS-3, VDS-2; CID A-A-52306 / MIL-PRF-2104G and Allison® – C-4

Meets quality requirements of most gasoline engine manufacturers in the USA, UK, Canada, Europe, and Japan.

## Typical Technical properties

Viscosity Grade, SAE J300	10W-30	15W-40
Density at 15°C, g/ml, ASTM D4052	0.860	0.870
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	76.25	107.85
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	11.8	15.6
Viscosity Index, ASTM D2270	150	154
Flash Point(COC), °C, ASTM D92	220	224
Pour Point, °C, ASTM D97	-42	-36
Cold Cranking Viscosity(CCS), mPa s, ASTM D5293	5700@-25°C	5000@-20°C
Total Base Number, mg KOH/g, ASTM D2896 (Max)	10	10
Sulfated Ash, wt %,ASTM D874	0.99	0.99

## Available in

Cartons: 12 x 1L, 24 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails: 18.9L, 20L & 25L Drums: 200L, 208L, 210L



# EMIRATES1 DX 09 ACE

(Heavy Duty Diesel Engine Oils)

## Description

Emirates1 DX 09 ACE are multi-grade Heavy Duty Diesel Engine Oils formulated to provide excellent performance in heavy duty fleets, marine and industrial applications. This advanced product technology offers a medium extended drain formulation that helps maximize engine durability.

## Applications

Emirates1 DX 09 ACE is recommended for use in all naturally aspirated and turbocharged diesel engines fitted in trucks, tractors, buses, goods carriers (LCVs), 3-wheelers and gen-sets, on-highway light and heavy-duty trucking, off-highway industries including: construction, mining, quarrying, and agriculture & mixed fleet applications.

## Performance Features and Benefits

- High thermal and oxidation stability
- Deposit control and acid neutralization
- Start-up wear protection
- Cleaner engines and longer component life
- Improved soot handling
- TBN reserves
- Advanced detergency/dispersancy
- Excellent low temperature properties
- Exceptional high temperature protection for hot running engines under heavy load
- Component compatibility
- Longer gasket and seal life
- Stay-in-grade shear stability
- Improved viscosity control and used oil pump-ability

## Recommendations/Specifications

### Quality Level:

CJ-4, CI-4 PLUS, CI-4, CH-4, CG-4, CF-4, CI-4/SM, CI-4/SL, CH-4/SJ, CF, ACEA - A3/B3, E2, E3, E4, E5, E6, E7, E9; JASO-DH-1

### Meets or exceeds:

Caterpillar® – ECF-3, ECF-2; Cummins® – CES 20081, 20078, 20077; Daimler – MB 228.31, 228.3 & 229.1; Detroit Diesel® – Power Guard 93K218 & previous; Deutz – DQC 111-05; Global – DHD-1; JASO – DH-2; Mack® – EO-O Premium Plus and previous; MAN – M 3275, 3575; MTU – Type 2.1; Renault® – V1 RLD-3; Volvo® – VDS-4, VDS-3; Allison® – C-4

## Typical Technical properties

Viscosity Grade, SAE J300	10W-30	15W-40	20W-50
Density at 15°C, g/ml, ASTM D4052	0.865	0.875	0.883
Kinematic Viscosity at 40°C, mm²/s, ASTM D445	77.9	109.5	162.9
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	12.0	15.2	19.5
Viscosity Index, ASTM D2270	150	146	138
Flash Point(COC), °C, ASTM D92	220	224	230
Pour Point, °C, ASTM D97	-36	-30	-24
Cold Cranking Viscosity(CCS), mPa s, ASTM D5293	6800@-25°C	6500@-20°C	8300@-15°C
Total Base Number, mg KOH/g, ASTM D2896 (Max)	10.5	10.5	10.5
Sulfated Ash, wt %,ASTM D874	1.10	1.20	1.30

## Available in

Cartons: 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L, Pails: 18.9L, 20L & 25L Drums: 200L, 208L, 210L



# EMIRATES1 TRANS HD-TDTO

(Commercial Automotive Transmission Oil)

## Description

**Emirates1 Trans HD Oils-TDTO** (Transmission and Drive Train Oils) are specialized, advanced fluids designed for the needs of heavy duty equipment systems in mobile and stationary equipment where Caterpillar TO-4 or Allison C-4 fluids are specified. These fluids provide excellent operating and maintenance benefits across a broad temperature range for increased efficiency, performance, and component protection.

## Applications

**Emirates1 Trans HD Oils-TDTO** (Transmission & Drive Train Oils) are recommended for use in Caterpillar and other competitive brands of heavy duty off-road equipment in applications where fluids meeting TO-4 requirements are specified. Typical applications include, but are not limited to, power shift and hydrostatic transmissions, torque converters, wet brake mechanisms, differentials, final drives, and hydraulic systems. Other applications include manual transmissions where API GL-3 or Allison C-4 fluids are specified.

## Properties

**Emirates1 Trans HD Oils-TDTO** (Transmission & Drive Train Oils) deliver outstanding friction retention and anti-wear protection, minimizing clutch slippage for complete power transfer. Advanced formulation maximizes the life of clutch materials, eliminates wet brake chatter, protects components against wear, prevents friction surface glazing, and resists high temperature oxidation. Synthetic base stock ensures maximum component protection and offers extended drain capability. Specialized additives offer outstanding reliability and performance in ultralow temperature applications ensuring maximum productivity in extreme conditions.

## Performance Features and Benefits

- Friction material compatibility
- Outstanding anti-wear
- Excellent pitting control
- Excellent foam control protection
- High oxidation stability
- Increased efficiency
- Very good low temperature pump ability
- Balanced static and dynamic friction coefficients

## Recommendations/Specifications

**Emirates1 Trans HD Oils-TDTO** (Transmission & Drive Train Oils) are recommended for use where the following specifications are required: Allison – C-4 (off-road), CAT® – TO-4, CAT® – TO-4M (All Season Synthetic Blend only), CAT® - HYDO Advanced 10 (SAE 10W only), Komatsu - Micro Clutch, Sundstrand – Hydrostatic, Vickers – M2950-S/35VQ25, DANA – Power shift (where TO-4 is referenced), Tremac/TTC (where TO-4 is referenced), EATON Fuller (where TO-4 is referenced) & ZF – TEMLO3.

Always follow equipment manufacturer's recommendations for proper fluid type and viscosity grade.

## Typical Technical properties

SAE Grade	10W	30	50
Density at 15°C, g/ml, ASTM D4052	0.860	0.875	0.886
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	38.2	101.7	215.8
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	6.1	11.6	19.1
Viscosity Index, ASTM D2270	104	102	100
Flash Point(COC), °C, ASTM D92	200	210	220
Pour Point, °C, ASTM D97	-34	-27	-21
Sulfated Ash, wt %	1.2	1.2	1.2
Foam Seq. I / II / III, ASTM D 892	Pass	Pass	Pass

## Available in

Cartons: 12 x 1L, 24 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails: 18.9L, 20L & 25L Drums: 60L, 200L, 208L



# EMIRATES1 GEAR OILS

(Extreme Pressure Transmission Oils – API GL-5)

## Description

**Emirates1 Gear Oils** are a range of premium mineral and synthetic automotive gear oil manufactured with modern extreme pressure additives and friction modifiers, meeting the requirements of API GL-5/4 and MT-1, as well as many other manufacturer specifications. It contains the correct dosage of limited-slip additive eliminating the need for an additional product when used in limited slip differentials. Through their mono-grade and multi-grade viscosity characteristics they meet the requirements of several automotive manufacturers for passenger cars and commercial trucks or buses.

## Applications

**Emirates1 Gear Oils** are recommended for use in differentials utilizing spiral, bevel, or hypoid gear sets, manual transmissions, power take off units, and final drives found on passenger cars, trucks, and off-highway vehicles used in construction, farm, forestry, and mining operations. Ideally suited to mobile gear applications exposed to extreme loads and high temperatures. In addition, these advanced gear oils are formulated with limited-slip additives that meet the performance specifications for service-fill limited-slip applications.

## Properties

**Emirates1 Gear Oils** provides a superior level of protection in heavy duty conditions including shock loads, preventing wear and maintaining the life of critical parts. The multi-purpose formulation allows greater flexibility while minimizing inventory levels, especially for differential applications.

## Performance Features and Benefits

- Anti-shudder additive technology
- Superior thermal stability
- Longer drain intervals
- Compatible with all seal and metal types
- Excellent synchronizer performance giving extended synchronizer life and shift comfort
- High safety margin against foaming and corrosion
- Superior protection against scoring & spelling wear
- Maintains cleanliness & reduces abrasive wear
- Very good wear protection, even under severe load conditions
- Exceptional cold flow properties giving smoother gear shift at low temperatures

## Recommendations/Specifications

API GL-5/GL-4/MT-1/PG-2, MIL-L-2105D, L-PRF-2105E, GM HN 1181/1187/1386/1561, China National GB 13895-1992, Ford ESW-M2C1006-B/1013-A/104-A/105-A/197-A, Mack GO-J PLUS, GO-J, GO-H, GO-G. API GL-5/MT-1, ArvinMeritor 076-E, O-76N Extended Drain, SAE J2360, MIL-2105E/F, Eaton Road ranger – E500/SHAES 256 Rev C, International – TMS-6816, Mack GO-J Plus, GO-J (and previous), STEMCO PPS+ and PPS wheel end systems, Scania STO 1:0, AIST/US Steel 224, AGMA 9005-E02, 250.03, 250.04, 251.02, No. 4, CEC L-45-A-99 (20 hour shear)

Meets or exceeds the requirements of vehicle manufacturers such as IVECO, MAN, Scania and Volvo.

## Typical Technical properties

Viscosity Grade, SAE	90	140	80W-90	85W-90	85W-140	75W-80	75W-90	75W-140
Density at 15°C, g/ml, ASTM D4052	0.900	0.910	0.883	0.885	0.903	0.868	0.870	0.875
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	16.5	31.5	17.3	18.6	31.2	10.5	16.9	30.2
Viscosity Index, ASTM D2270	95	95	105	103	98	160	162	170
Flash Point(COC), °C, ASTM D92	240	248	218	218	226	212	214	220
Pour Point, °C, ASTM D97	-9	-9	-27	-21	-18	-48	-48	-39

## Available in

### Cartons

12 x 1L, 24 x 1L, 4 x 5L  
6 x 4L, 6 x 5L

### Pails

18.9L, 20L & 25L

### Drums

60L, 200L & 208L



# EMIRATES1 ATF DEXRON / CVT, DCT/DSG

(Automatic Transmission & Power Steering Fluid)

## Description

**EMIRATES1 ATF DEXRONs / MERCON® LV / ATF T IV** are blended with premium base stocks and advanced additives that provide oxidation and thermal stability, friction control, load-carrying ability, corrosion and wear protection. Emirates1 ATF protects against the formation of deposits, sludge, varnish, and foam and demonstrates outstanding durability.

## Applications

**Emirates1 ATF DEXRON II** can be used in automatic transmissions, torque converters, power steering and hydraulic circuits, for which the manufacturers prescribe a product, which meets the General Motors ATF TYPE Dexron II -D requirements (use in GM automatic transmissions pre 1993).

**Emirates1 ATF DEXRON III** is recommended for use in automatic transmissions, torque converters, power steering and hydraulic circuits, for which the manufacturers prescribe a product, which meets the General Motors ATF TYPE Dexron III or Dexron II E and Ford Mercon-requirements (use in GM automatic transmissions pre 2006). NB: Do NOT use where Dexron VI, Mercon V or Mercon SP or LV are required.

**Emirates1 DEXRON®-VI / MERCON® LV** Fully Synthetic Automatic Transmission Fluid is a high performance fluid formulated specifically to meet and exceed GM DEXRON®-VI and Ford MERCON® LV specifications. Specially blended using premium synthetic base oils and state-of-the-art additive technology ensures peak performance and maximum fuel economy while meeting the frictional and wear requirements of these advanced automatic transmission fluid specifications.

**Emirates1 ATF T IV** is a universal ATF for the latest generation of automatic transmissions, formulated from hydro cracking oils and PAO with special additives and inhibitors to ensure the proper operation of the automatic transmission.

## Recommendations/Specifications

**DEXRON III (II)** Allison C4, C3 (C4); Ford Mercon (M2C-138CJ, Mercon); GM 6147-M, Dexron III-G (6137-M DEXRON II-D); MAN 339 V1/Z1 (339 V1/Z1); MB 236.5, 236.9(236.5, 236.7); Voith H55.6335xx (H55.6335xx); Volvo ST D 1273, 40 [97340], 41[97341]; Caterpillar TO -2

**DEXRON®-VI / MERCON® LV** General Motors DEXRON®-VI, Ford MERCON® LV, newer GM vehicles, MB 236.41, Allison C-4 & VOITH H55.6335xx

**Emirates1 ATF T IV** Toyota and Aisin AW, BMW, Opel/GM, Land Rover, Renault, Toyota, Volvo, VW/Audi, Nissan, Mazda, ESSO, Land Rover & Fiat

**CVT FLUID** Audi/VW (TL 52180, G 052 180, G 052 516), BMW 8322 0 136 376/8322 0 429 154 (EYL799/799A), Ford CFT30/WSS-M2C933-A /Motor craft XT-7- QCFT, GM/Saturn (DEX-CVT, CVTF I-Green2), Honda (HMMF, HCF-2), Hyundai/Kia CVTF (SP-CVT-J1), Mazda CVTF 3320, Mercedes Benz CVT28, 236.20, Nissan (NS-1, NS-2, NS-3), Renault ELFOMATIC, Shell Green 1V, Suzuki (TC / NS-2 / CVTF Green 1, Green 2, CVTF 3320) & Toyota (CVTF TC, CVTF FE)

**DCT/DSG FLUID** BMW DCTF -1, MTF LT-5, Chrysler 68044345EA, Ferrari TF DCT -F3, Ford WSS -M2C 936-A, WSS - M2C936-A, MB 236.21, 236.25, Nissan R35 SPECIAL, Porsche 000.043.20, 000.043.207.29, 000.043.207.30, Volvo BOT 341 #1161838, Renault BOT 450 EDC 6-Speed, VW G 052 182, G 052 529, G 052 513, TL 52182

## Typical Technical properties

	DEX II	DEX III	DEX VI	T IV	CVT	DCT / DSG
Color, visual	Red	Red	Red	Red	Amber	Red
Density at 15°C, g/ml, ASTM D4052	0.868	0.862	0.850	0.852	0.853	0.850
Kinematic Viscosity at 40°C, mm²/s, ASTM D445	39.0	39.0	29.0	33.0	34.6	35.2
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	7.5	7.4	6.2	6.9	7.21	7.1
Viscosity Index, ASTM D2270	163	172	172	180	180	170
Flash Point(COC), °C, ASTM D92	210	200	220	208	216	210
Pour Point, °C, ASTM D97	-42	-45	-51	-48	-51	-48
Brookfield viscosity at -40°C, mPa.s, ASTM D2983	35,000	15,000	10,000	12,000	12,300	11,500

## Available in

### Cartons

12 x 1L, 24 x 1L, 4 x 5L,  
6 x 4L, 6 x 5L

### Pails

18.9L, 20L & 25L

### Drums

200L, 208L



# EMIRATES1 BRAKE FLUIDS

(High performance glycol based Brake Fluid)

## Description

**Emirates1 Brake Fluids** are premium quality, non-silicone, non-mineral/petroleum based, fully synthetic brake fluids designed for use in a wide range of brake and clutch Applications. It offers superior dry and wet boiling points and maintain viscosity in cold and hot environments.

## Applications

Recommended for re-fill or top-up of brake and clutch systems in passenger cars, 4WD's, motorcycles, light and heavy duty commercial vehicles, mining, construction and agricultural equipment that require a non-petroleum based brake & clutch hydraulic fluid.

**DOT 5.1** Suitable for use where the vehicle manufacturer specifies either DOT 3, DOT 4, or DOT 5.1 fluids. It is also suitable for use with all types of seals, hoses and other brake and clutch system parts. Low viscosity (at -40C), for faster fluid circulation in micro-valves of ABS systems.

**DOT 4** Suitable for use where the vehicle manufacturer specifies DOT 3 or DOT 4 brake fluid. Better performance for life of fluid compared to DOT 3 fluids.

**DOT 3** Suitable for use where the vehicle manufacturer specifies DOT 3 brake fluid.

**Note:** Intermixing of brake fluids of different grades is not recommended. Intermixing may impact braking performance of some brake systems. This product is not miscible with silicone based brake fluids. This product is not compatible with any mineral or synthetic oil based fluids.

## Product Benefits

- Excellent braking response due to high boiling point of fluid
- High wet boiling point ensures long term retention of fluid performance
- Better performance for life of fluid
- Compatible with all common brake system materials
- Borate esters to scavenge water and maintain ERBP as the fluid ages
- Anti-corrosion properties: complete brake system protection
- Elastomer compatibility: no leakage or fluid losses

## Recommendations/Specifications

**DOT 5.1** - FMVSS 116 DOT 5.1, DOT 4 and DOT 3, SAE J1703/ J1704, ISO 4925 (Class 5.1, 4 & 3)

**DOT 4** - FMVSS, No. 116, DOT 4 and DOT 3, SAE J1703/J1704, ISO 4925 Class 4&3

**DOT 3** - FMVSS No 116 DOT 3, SAE J1703, ISO 4925 Class 3, AS 1960-2005 Grade 1

Meets the quality requirements of USA, UK, Canada, Europe, and Japan.

## Typical Technical properties

Product Grades	Brake Fluids		
	DOT 5.1	DOT 4	DOT 3
Density at 20°C, g/MI, ASTM D4052	1.069	1.040	1.031
Kinematic Viscosity at -40°C, mm²/s, ASTM D445	810	1200	1300
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	2.16	2.60	2.40
Dry ERBP (FMVSS No. 116) S.11, °C (min.)	275	263	240
Wet ERBP (FMVSS No. 116) S.12, °C (min.)	187	165	150
pH (FMVSS No. 116) S.14	7.5	8.5	9.0
Corrosion Test @ 100°C for 120hrs	Pass	Pass	Pass

## Available in

200ml / 225ml / 250ml / 450ml / 500ml

Specialty Lubricants



# EMIRATES1 RADIATOR COOLANT & ANTIFREEZE

(Premix-Coolant & Antifreeze)

## Description

**Emirates1 Radiator Coolant** is a specially formulated ready to use engine coolant, for both petrol and diesel engines. It is a mixture of mono-ethylene glycol and selected chemical agents to provide outstanding all round protection.

## Applications

**Emirates1 Radiator Coolant** is suitable for the cooling systems of all types of passenger vehicles, 4WD's, light & heavy commercial vehicles, stationary engines and motorcycles. It can be used to top up both Organic Acid Technology (OAT) & Hybrid Type anti-freeze/anti boil coolant as well as Type B inhibitor only solutions. It is safe to use wherever anti-freeze/anti-boil/anti-corrosion properties are required and with all fuel types such as petrol, LPG, dual fuel, light & heavy duty diesel. It is pre-diluted at a 50% concentration with demineralized water making the product ready to use right out of the bottle.

**Dose Rate:** Mix Ratio 33%, 50%

**Freezing Point:** -18°C to -38°C

**Boiling Point:** +104°C to +109°C

## Properties

**Emirates1 Radiator Coolant** contains the combination of organic additive technology inhibitors boosted with borate, nitrite, nitrate, molybdate and silicate inorganic corrosion inhibitors. It is low silicate, phosphate and amine free suitable for heavy-duty applications without supplemental coolant additives.

## Product Benefits

- Protects all internal surfaces from corrosion, including aluminum
- Long life coolant & inhibitor pack
- Phosphate free formulation
- Ready to use - no mixing
- Effective engine cooling without boiling
- A clean cooling system with protection from sludge and scale deposits
- Compatible with all coolant types
- Will not dis-color original coolant
- Compatible with plastics, rubbers and seals
- Efficient lubrication of water pumps
- Compatibility with rubbers
- Protection against frost
- Prevention against electrolysis
- Protection against cavitation corrosion

## Recommendations/Specifications

AS2108-2004 Type A, ASTM D3306/4985, BS 6580, JIS K 2234-97, Class 2, Jaguar M97-B44D, Bentley, Caterpillar EC-1, Cummins 85TB-2/CESMG03, Chrysler MS-9769, Deutz AG 0199-99-1115/2091, Federal Standard O-A-548D, Fiat 955523/NC 956-16, Ford M97-B44A/B44D/51A, German Army TL6850-0038/1, GM 6277M/1825M/1899M, Holden HN2217/HN2043, Jenbacher TA 1000-0201, JI Case JIC 501, JIS K2234 (Japan), JCB STD 0088, JASO M325 (Japan), John Deere JDM H24, Komatsu KES 07.892, KSM 2142 (Korea), TMC RP329, Leyland BLS.22.AF.01, Liebherr MD 1-36-130, Mack 014 GS 17009, Mercedes MB 325.3/326.0/326.3 (Premix Only), Navistar BI Type III, Mitsubishi ES-X64217, MTU MTL 5048, Renault 41-01-001Q Type D, Nissan NES M5059, Opel B 040 1065, QL 13DI00, SAE J1034, Rover BLS.22.AF.01, SAAB GM6277, Scania T1.02-98 0813, UNE 26.361.88, Toyota Long Life TSK2601G, Vauxhall B 040 1065, Volvo VCS, VW, Skoda, Seat TL-774-C (G11), VW, Audi, Lamborghini TL 774-D/F (G12/G12+)

## Typical Technical properties

	RADIATOR COOLANT	ANTIFREEZE	
Dose Rate (%)	33	50	100
Specific Gravity 15.6°C (ASTM D 1122), g/mL	1.06	1.07	1.11-1.14
pH (ASTM D 1287)	7.5	9.0	NA
Freeze Point 50% volume (ASTM D 1177), °C	-18	-37	-38
Reflux boiling point (ASTM D 1120), °C	104	129	166

## Available in

1L / 4L / 5L / 25L / 200L / 250L



# EMIRATES1 FLUSHING OIL

(Automotive & Industrial Flushing Oil)

## Description

**Emirates1 Flushing Oil** is a solvent free, fast acting, engine cleaning formulation that removes engine deposits, sludge and contaminants with the oil service drain. It contains added zinc for engine wear protection and its fast acting formulation works in 10 minutes. The solvent free formulation protects gaskets and seals from damage during the cleaning process.

## Applications

**Emirates1 Flushing Oil** is designed for use in all engine types in passenger cars, 4WD's, light & heavy duty commercial vehicles, motorcycles, farming, mining, agricultural, industrial equipment, marine and stationary engines. It is a non-detergent fluid and therefore can be used with full confidence in calcium sensitive environments.

## Properties

**Emirates1 Flushing Oil** is safe to use in all petrol, LPG & diesel engines and is safe for catalytic converters, DPF's (Diesel Particulate Filters) and engine sensors. Its unique formulation of cleaning agents are designed to clean oil galleries, oil sludge and engine contaminants that effect lubrication of the engine. These contaminants are broken down by the Engine Flush and drained away with the oil service.

## Product Benefits

- Ensures optimum oil circulation in the engine
- Safe with DPF's and catalytic converters
- Helps condition seals
- Fast acting, cleans in 10 minutes
- Solvent free to prevent engine seal damage
- Minimizes compression loss
- Contains Zinc for added wear protection
- Removes engine deposits with oil drain
- Suitable for all Petrol, Diesel & LPG engines
- Can be used with Mineral or Synthetic Oils
- Removes contaminants that would affect new oil

## Method of Use

In normal use, flushing is carried out for about twenty minutes under hot, fast idle conditions without load. Flushing is particularly recommended where the preceding oil-service period may have been exceeded, or an extended period for the new oil change is envisaged.

## Recommendations/Specifications

Meets the requirements of JIS K 2213 Type 1 (without additive) and MHI Power Type 1 Flushing Oil.

## Typical Technical properties

	FLUSHING OIL
Density at 15°C, g/ml, ASTM D4052	0.876
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	30
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	5.3
Viscosity Index, ASTM D2270	103
Flash Point(COC), °C, ASTM D92	224
Pour Point, °C, ASTM D97	-12

## Available in

1L / 4L / 200L / 210L



# EMIRATES1 MULTIPURPOSE GREASE – (MP & EP) 2/3

## EMIRATES1 LITHIUM COMPLEX GREASE

(High Temperature Lithium Base Grease)

### Description

**Emirates1 Multipurpose Grease – MP** is a series of high quality, lithium hydroxyl stearate grease, with oxidation and corrosion inhibitors, which help to ensure long service life of the grease and a high level of protection for ferrous surfaces. It is recommended for all grease – lubricated parts in automotive applications. The NLGI No.2 grade is suitable for use in centralized greasing systems in service stations. It has excellent water – resistant properties.

**Emirates1 Multipurpose Grease – EP** is a series of high quality, lithium hydroxyl stearate extreme pressure grease. It incorporates a lead free EP additive and is for use where surfaces are subjected to heavy or shock loading. It also contains oxidation and corrosion inhibitors, which help to ensure long service life of the grease and a high level of protection for ferrous surfaces.

**Emirates1 Lithium Complex Greases – 1/ 2/ 3** is a series of high quality, lithium complex grease having high water tolerance and mechanical stability, combined with excellent high temperature performance. These are ideally suited for application by centralized grease systems due to good resistance to oil separation under pressure mechanical stability.

### Applications

These greases are for use in plain and rolling bearings of all types and in all kinds of machinery & severe conditions of shock loading - including electrical motors, machine tools, textile, paper making and wood working machines and construction equipment. These greases can be used at higher temperatures of up to 180°C for short duration or with frequent replacement. Continuous operating temperature range for these greases: -20 to 130°C.

### Product Benefits

- Long service life
- Good shear –stability and resistance to vibration
- High Load carrying capacity and low wear
- Low friction torque
- Good pump ability
- Resistant to wash –off by water
- Fully compatible with other Lithium greases

### Recommendations/Specifications

DIN 51502 KPIK/KP2K/KP3K/KP4K (MP)

DIN 51825 KPIK/KP2K/KP3K/KP4K (EP)

### Typical Technical properties

	MULTIPURPOSE GREASE		MULTIPURPOSE GREASE		LITHIUM COMPLEX GREASE		
	MP	EP	Lithium	Lithium	Lithium	Lithium	Lithium
Thickener Type	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium
NLGI Classification	2	3	2	3	1	2	3
Texture	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth
Color, Visual	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow
Dropping Point °C, ASTM D 566	190	190	190	190	270	270	270
Worked Penetration @25°C 60 strokes, ASTM D 217	265/295	220/250	265/295	220/250	310/340	265/295	220/250
Wheel Bearing leakage after 6hrs @ 110°C gms, ASTM D 1263	<2	<2	<2	<2	<2	<2	<2
Water washout resistance %wt, ASTM D 1264	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Copper Strip Corrosion for 24hrs @100°C, ASTM D 4048	-ve	-ve	-ve	-ve	-ve	-ve	-ve
Four ball weld lead Kg, IP 239	-	-	<260	<260	-	-	-

### Available in

400g / 500g / 1kg / 15kg / 180kg



# EMIRATES1 GRAPHITE, MOLY, CHASSIS & WHEEL BEARING GREASE

## Description & Application

**Emirates1 Graphite & Moly Greases** are recommended for general lubrication under comparatively high load and low relative displacement of inter-acting surfaces. These greases are recommended for leaf springs, hydraulic rams, plungers, slides, elevator cables, pantograph pans, steel wire ropes and certain anti seize purpose. These greases can be used at higher temperatures of up to 180°C for short duration or with frequent replacement. Continuous operating temperature range for these greases: -20 to 130°C.

**Emirates1 Chassis Grease** is calcium based grease specially formulated for vehicle chassis lubrication and protection. It is water resistant and contains extreme pressure and tackiness agents, making it particularly effective in severe application such as large trucks and off-highway equipment used in the construction industry.

**Emirates1 Bentonite Grease** is high temperature bentonite clay grease for the lubrication of slow moving mechanisms subjected to very high temperatures. It allows peak temperatures up to 220°C, provided that the period of operation at this temperature is limited and that the equipment is re-greased frequently.

**Emirates1 Wheel Bearing Grease** is sodium –based grease specially developed for the lubrication of automotive wheel bearings over a wide range of temperatures. It is particularly suitable where high bearing temperature occur on breaking from high speeds. These have excellent mechanical stability and high dropping point.

## Product Benefits

- Long service life.
- Good shear –stability and resistance to vibration.
- Low friction torque.
- Resistant to wash –off by water
- High Load carrying capacity and low wear

## Typical Technical properties

	GRAPHITE GREASE		MOLY GREASE	
Thickener Type	Lithium	Lithium	Lithium	Lithium
NLGI Classification	2	3	2	3
Texture	Smooth	Smooth	Smooth	Smooth
Color, Visual	Dark grey	Dark grey	Dark grey	Dark grey
Dropping Point °C, ASTM D 566	190	190	190	190
Worked Penetration @25°C 60 strokes, ASTM D 217	265/295	220/250	265/295	220/250
Wheel Bearing leakage after 6hrs @110°C gms, ASTM D 1263	<2	<2	<2	<2
Water washout resistance %wt, ASTM D 1264	< 5	< 5	< 5	< 5
Copper Strip Corrosion for 24hrs @100°C, ASTM D 4048	-ve	-ve	-ve	-ve

## Typical Technical properties

	CHASSIS	BENTONITE	WHEEL BEARING
Thickener Type	Calcium	Bentonite	Sodium
NLGI Classification	2	2/3	3
Texture	Smooth, Homogenous	Smooth, Buttery	Smooth, Homogenous
Color, Visual	Greenish Red	Brown	Dark Brown
Dropping Point °C, ASTM D 566	100	Infusible	200
Worked Penetration @25°C 60 strokes, ASTM D 217	310/340	250/280	220/250
Copper Strip Corrosion for 24hrs @100°C, ASTM D 4048	-ve	-ve	-ve

## Available in

400g / 500g / 1kg / 15kg / 180 kg

Greases



# EMIRATES1 MARINE CYLINDER OILS

(Cylinder Lubricant for Two-Stroke Low Speed Diesel Engines)

## Description

**Emirates1 Marine Cylinder Oils** are a wide range of cylinder lubricants designed for use in all two-stroke low speed diesel engines. They are suitable for use with engines burning distillate and residual fuel and has been engineered to offer excellent performance under all operational conditions such as full power, slow and flexible steaming regimes.

## Applications

**Emirates1 Marine Cylinder Oils** are designed for cylinder lubrication of all types of 2-stroke low speed diesel engines burning distillates and residual fuel oil from 0.5% – 3.5% sulphur levels.

**Emirates1 Marine Cylinder Oil 50/25** for slow-speed engines running on ECA fuels below 0.1% sulphur

**Emirates1 Marine Cylinder Oil 50/40** for slow-speed engines running on low sulphur fuel oil (LSFO)

**Emirates1 Marine Cylinder Oil 50/57** for slow-speed engines running on residual fuels within 0.5-3.5% sulphur

**Emirates1 Marine Cylinder Oil 50/70** for slow-speed engines running on high sulphur fuel oil (HSFO)

## Properties

**Emirates1 Marine Cylinder Oils** have been particularly designed for the new generation of highly rated, fuel efficient, low speed marine diesel engines operating with higher pressures, higher temperatures and longer strokes specially to deal with all aspects of oil stress.

## Product Benefits

- Minimal piston ring and liner wear
- Maximum cleanliness.
- Reduced engine maintenance costs.
- Combats the deposits and scuffing related engine wear associated with low sulphur fuels
- Excellent thermal and oxidative stability to ensure performance in a variety of engine conditions
- Reduced cylinder oil consumption
- Extended periods between overhauls
- Formulated with detergent technology required to deliver excellent performance with low-sulphur fuel
- Detergency system provides strong control of piston groove deposits which is a critical area for distillate fuel operation
- Maximized piston overhaul intervals

## Recommendations/Specifications

Meets or exceeds MAN Diesel & Turbo, MHI-MME and Wärtsilä, Mitsubishi Heavy Industries

## Typical Technical properties

	50/25	50/40	50/50	50/70
SAE Viscosity Grade	50	50	50	50
Density at 15°C, g/ml, ASTM D4052	0.908	0.920	0.930	0.940
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	19	19	19	19
Viscosity Index, ASTM D2270	>95	>95	>95	>95
Flash Point(COC), °C, ASTM D92	>240	>240	>240	>240
Pour Point, °C, ASTM D97	-9	-9	-9	-9
Total Base Number, mg KOH/g, ASTM D2896	25	40	50	70
Sulphated Ash, %wt, ASTM D874, max	3.20	5.10	7.27	8.94

## Available in

200L / 208L / 1000L



# EMIRATES1 MARINE HD OILS

(High Performance Marine Diesel Engine Oil)

## Description

**Emirates1 Marine HD Oil** series is a range high performance marine diesel engine oils exhibiting increased dispersancy especially suitable for high BMEP medium and high speed diesel engines operating on distillate and MDO fuels. These advanced diesel lubricants are available in S.A.E. 30, 40 & 15W40 grades to suit most marine engine viscosity requirements. The special balance of detergent and dispersant properties of these oils provide not only increased resistance to lacquer formation in severe service Applications but also assist in sludge and deposit removal.

## Applications

**Emirates1 Marine HD Oil series** is suitable for latest model diesel engines including those of MAN-B&W Alpha, Caterpillar (3600), Deutz and Stork Werkspoor. They have an FZG rating of 12 which makes them excellent extreme pressure gear lubricants.

- Suitable for lubrication of medium and high speed diesel engines used for fishing fleets and river transport applications
- Main & auxiliary engines of all types and ratings, naturally aspirated, turbocharged or supercharged
- Clutched reduction driver, reversing gear system, stern tubes and bearings

## Properties

**Emirates1 Marine HD Oil series** is designed for lubrication in high BMEP engines and in severe duty engine applications where the nature of the fuel and service requires a greater level of dispersancy and liner lacquer control than typically offered by the majority of diesel lubricants. They are formulated from high quality base stocks along with a balanced additive system to ensure optimum performance and protection for trunk piston engines in marine & industrial applications where mono-grade oils are specified.

## Product Benefits

- |   |   |
|---|---|
| • Extended oil drain intervals            | • Increased oxidation and thermal stability   |
| • Extended cylinder overhauls             | • Improved engine cleanliness   |
| • Reduced bore polishing                  | • Reduced top deck sludge   |
| • Superior wear protection                | • Wide engine capability builder, size, speed   |
| • Reduced oil consumption                 | • Reduced piston ring groove deposits   |
| • Reduced liner lacquering                | • Outstanding protection against ring & linear wear   |
| • Excellent capacity for water separation | • Excellent detergent and dispersant capabilities guaranteeing engine cleanliness & long life |
| • Optimal TBN reserves                    |   |

## Recommendations/Specifications

Meets or exceeds the quality requirements of MTU Type II, Wärtsilä, MWM Deutz, Caterpillar 3600 Series, CUMMINS CES 200-71, -72, 76, (B&C Series) CES 200-75, Mitsubishi, Perkins, Caterpillar: ECF-2, MTU MTL 5044 Category 1 / 2, Mercedes Benz 228.3, MAN 3275, Volvo VDS 2 & GM Allison C-4

API service: CI-4, CH-4, CF, ACEA E7-12, ACEA: E3-96, E5 A2-96, B3-98

## Typical Technical properties

	30/12	40/12	15W40/12
SAE Viscosity Grade	30	40	15W40
Density at 15°C, g/ml, ASTM D4052	0.896	0.899	0.903
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	108	142	219
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	12.0	14.5	19.4
Viscosity Index, ASTM D2270	100	100	100
Flash Point(COC), °C, ASTM D92	246	268	276
Pour Point, °C, ASTM D97	-18	-18	-18
Total Base Number, mg KOH/g, ASTM D2896	12	12	12
Sulphated Ash, wt%, ASTM D 874	1.4	1.4	1.4

## Available in

200L / 208L / 1000L



# EMIRATES1 TP & GEN-4 MARINE ENGINE OILS

(Cylinder Lubricant for Two-Stroke Low Speed Diesel Engines)

## Description

**Emirates1 TP (Trunk Piston) Marine Engine Oils** are marine multi-functional crankcase lubricants for highly rated medium-speed diesel engines operating on residual fuel, specially formulated to help reduce deposits in critical areas (e.g. piston under crown) & gives long-term protection against corrosion of ferrous and non-ferrous metals.

**Emirates1 GEN 4 Marine Engine Oil** is a **non-zinc and non-chlorine** lubricant formulated with high-quality base stocks which provide low consumption characteristics, high-temperature oxidation resistance, and thermal stability. These base stocks are combined with specially selected stable additives resulting in an engine oil with well-balanced properties.

**Emirates1 GEN 4** meets the requirements of an SAE 40 grade marine diesel engine oil and is suitable wherever API CF and/or CF-2 performance is specified and is rated an LMOA generation 4 lubricant.

## Applications

**Emirates1 TP (Trunk Piston) Marine Engine Oils** are designed for lubrication of medium-speed industrial or marine propulsion and auxiliary engines burning residual fuel oils & some medium and high-speed engines burning distillate fuel, where a high base Number, high ash lubricant is suitable. Suitable for bearings and stern-tubes, reduction gear lubrication control.

**Emirates1 GEN 4 Marine Engine Oil** has been specifically formulated to meet requirements of heavily loaded diesel engines manufactured by EMD and used in marine applications. It is suitable for other marine diesel engines of the highest horsepower, or higher brake mean effective pressure (BMEP) using distillate fuels with a sulfur content up to 1.5%. It will lubricate such engines in drilling rigs and stationary power generation service as well.

## Properties

**Emirates1 TP (Trunk Piston) Marine Engine** combine an exclusive formulation of latest additive technologies and highly refined base oils to provide a substantial safety margin to cope with the higher stress levels even with the latest and future designs of diesel engines. Particularly suitable for low or very low oil consumption engines operating with a poor quality residual fuel.

**Emirates1 GEN 4 Marine Engine Oil** is produced with high-quality base stocks and selected additives. These provide the oil with excellent lubricating properties, low consumption characteristics, high-temperature oxidation resistance and thermal stability. Also suitable for other high horsepower marine diesel engines using distillate fuels with a sulphur content up to 1.5%.

## Recommendations/Specifications

**Emirates1 TP (Trunk Piston) Marine Engine** Meets or exceeds the quality requirements of the all major medium speed engine manufacturers such as WÄRTSILÄ, MAN diesel, Caterpillar MaK, Yanmar, Daihatsu, HiMSEN & Rolls Royce

**API service:** CF specification

**Emirates1 GEN 4 Marine Engine Oil** meets or exceeds the quality requirements of the engines manufactured by Alco, Detroit Diesel (API CF-2) and Fairbanks Morse.

## Typical Technical properties

	TP 30/30	TP 40/40	GEN-4
SAE Viscosity Grade	<b>30</b>	<b>40</b>	<b>40</b>
Density at 15°C, g/ml, ASTM D4052	0.913	0.916	0.897
Kinematic Viscosity at 40°C, mm²/s, ASTM D445	110	135	139
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	12.0	14.0	14.1
Viscosity Index, ASTM D2270	100	100	98
Flash Point(COC), °C, ASTM D92	212	205	260
Pour Point, °C, ASTM D97	-18	-18	-6
Total Base Number, mg KOH/g, ASTM D2896	30	40	13
Sulphated Ash, wt%, ASTM D 874	3.7	4.9	1.6
Zinc, PPM, Max., ASTM D5185	-	-	10
Chlorine PPM,MAX., ASTM D5185	-	-	50
Load Carrying Capacity (FZG) Fail Load Stage, (IP 334)	11	10	-

## Available in

200L / 208L / 1000L



# EMIRATES1 OUTBOARD OIL

(2T & 4T-Engine Oil)

## Description

**Emirates1 2T outboard oil** is a high performance, two-stroke engine oil that is designed for many high performance, water-cooled two-stroke engines used in outboard marine Applications. It offers a clean engine and environmental performance. The combination of special base oils and additive guarantees long life. This can be used at up to a 1:50-fuel ratio depending on the manufacturer's recommendation.

**Emirates1 4T outboard oil series** are four stroke engine oils for outboard application meeting the latest requirements of the NMMA, formulated with carefully selected high quality base oils and special four stroke additives.

## Applications

**Emirates1 2T outboard oil** is recommended for use in two-stroke engines manufactured by Johnson, Mercury, OMC, Evinrude, Mariner, Force, Me cruiser, Yamaha, Suzuki, Nissan and Tohatsu or where NMMA TC-W, TC-WII or TC-W3 oils are recommended. It is also suitable for use in light to moderate duty, air-cooled two-stroke engines that are used in power mowers, chain saws, leaf blowers and lawn trimmers.

**Emirates1 4T outboard oil - 10W30** is the latest generation oil developed for new 4-stroke outboard emissions-free petrol engines in use under full load & specially recommended for marine outboard applications & **25W40** is particularly recommended for use in all outboard engines where an oil of "FC-W" specification is recommended. Particularly suitable for the lubrication of 4-stroke outboard engines subject to high speeds and the heaviest loads and for use in both fresh water and sea water environments.

## Properties

**Emirates1 2T outboard oil** is formulated from highly purified conventional mineral oils and an ash less dispersant additive system providing outstanding protection against exhaust port deposits, corrosion and wear. Spark plug fouling and pre-ignition are also minimized leading to flawless operation. The product is ideal for use in both modern and older two stroke engine models.

**Emirates1 4T outboard oil - 10W30** is a synthetic based engine oils for all pleasure craft 4-stroke petrol engines providing the highest level of engine protection over the wide range of operating conditions typical of outboard engines, ranging from high speed cruising to extended periods at idle & **25W40** is particularly recommended for use in all outboard engines where an oil of "FC-W" specification is recommended. Particularly suitable for the lubrication of 4-stroke outboard engines subject to high speeds and the heaviest loads and for use in both fresh water and sea water environment.

## Recommendations/Specifications

**Emirates1 2T outboard oil** meets or exceeds the quality requirements of API TC, NMMA TC-W3

**Emirates1 4T outboard oil - 10W30 & 25W40** meet the quality requirements of NMMA: FC-W, FB-00603J, API service: SL, SL/CF Conforming to the manufacturers' requirements of Bombardier, Evinrude, Honda, Johnson, Mercury, Sea-Doo, Suzuki, Yamaha & NMMA FC-W, FB-80812K, Conforming to the manufacturers' requirements of Yamaha, Honda, Suzuki, Johnson/Evinrude, Tohatsu/Nissan, Mercury Verado

## Typical Technical properties

	2T	4T	
Viscosity Grade SAE	30	10W-30	25W-40
Density at 15°C, g/ml, ASTM D4052	0.873	0.870	0.892
Kinematic Viscosity at 40°C, mm²/s, ASTM D445	52.9	80.8	151.9
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	8.45	11.94	15.5
Viscosity Index, ASTM D2270	134	142	104
Flash Point(COC), °C, ASTM D92	108	220	240
Pour Point, °C, ASTM D97	-36	-33	-21
Total Base Number, mg KOH/g, ASTM D2896	-	7.6	7.7

## Available in

Cartons : 12 x 500ml, 24 x 500ml, 12 x 1L, 6 x 5L, 4 x 5L, Pails : 18.9L, Drums : 200L, 208L 1000L



# EMIRATES1 AW & ZINC FREE HYDRAULIC FLUIDS

(Very High Performance Hydraulic Oils)

## Description

**Emirates1 AW / Zinc Free Hydraulic Fluids** are designed for high performance hydraulic systems. These fluids provide excellent operating and maintenance benefits for increased productivity. These are manufactured with paraffinic base oils and high performance ash less additives. They provide trouble free service in high output hydraulic systems at high temperature and pressure.

## Applications

**Emirates1 AW Hydraulic Fluids** are recommended for vane, piston, or gear-type hydraulic pumps in heavy duty and industrial service. Check your owner's manual for correct fluid viscosity.

**Emirates1 Zinc Free Hydraulic Fluids** are designed as an environmentally safer alternative to conventional zinc based hydraulic fluid and is an excellent high pressure, high temperature power transfer fluid where vane, piston, and gear pumps are utilized.

## Properties

**Emirates1 AW Hydraulic Fluids** have increased discharge flow rates and decreased internal pump leakage rates resulting in increased hydraulic system pumping efficiency, and therefore fewer fluid changes and less used fluid disposal. These hydraulic oils may also be used as general purpose lubricants where straight mineral oils and conventional rust and oxidation inhibited oils are recommended.

**Emirates1 Zinc Free Hydraulic Fluids** are classified as 'inherently biodegradable' and 'not harmful' to freshwater and marine invertebrates (OECD 202, US EPA OPPTS 850.1035). It is designed to minimize environmental impact and have low environmental persistence. This greatly reduces the immediate and long-term environmental impact of the fluid in the event of an oil spill.

## Product Benefits.

- High protection against wear insuring maximum equipment life
- Superior thermal stability avoiding formation of sludge even at high temperature
- Very good oxidation stability ensuring a long service life of the fluid
- Excellent hydrolytic stability avoiding filter blocking
- Excellent protection against rust and corrosion
- Good anti-foam and air release properties by using silicon free components
- Good demulsibility ensuring rapid water separation
- Reduced maintenance and operating costs

## Recommendations/Specifications

**AW** - Meets or exceeds ASTM D6158, Cincinnati/MAG IAS P-68 (AW 32), Cincinnati/MAG IAS P-69 (AW 68), Cincinnati/MAG IAS P-70 (AW 46), Parker Denison HF-0, HF-1, HF-2; Sperry Vickers/Eaton I-286-S, M-2950-S, Eaton E-FDGN-TB002-E, 35VQ25A, US Steel 127, 136; DIN 51524 Part 1, 2, 3; General Motors LS-2, JCMAS HK, Bosch Rexroth & Racine **Zinc Free** - Denison (HF-0, HF-1 and HF-2), Eaton Vickers (I-186-S, M-2950-S), Cincinnati Machine, Bosch Rexroth (mineral oil fluids for axial piston pumps RE 90220-01/09.09), AIST 126 & 127, 136, Cincinnati-Machine P-68, P-70, and P-69, Denison HF-0, HF-1, HF-2, US Steel 127, 136, GM LH-04-1, LH-06-1, LH-15-1, Sauer Danfoss, DIN 51524 Part 2 & GM LS-2.

## Typical Technical properties

	ZINC FREE HYD FLUIDS				AW HYD FLUIDS			
	32	46	22	32	46	68	100	
ISO Viscosity Grade								
Appearance, Visual	B&C	B&C	B&C	B&C	B&C	B&C	B&C	
Density at 15°C, g/ml, ASTM D4052	0.860	0.862	0.860	0.865	0.870	0.870	0.875	
Kinematic Viscosity at 40°C, mm²/s, ASTM D445	32	46	22	32	46	68	100	
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	5.47	7.05	4.50	5.55	7.05	8.97	11.54	
Viscosity Index, ASTM D2270	105	110	114	112	110	105	102	
Flash Point(COC), °C, ASTM D92	200	210	210	210	220	226	230	
Pour Point, °C, ASTM D97	-45	-42	-42	-39	-36	-33	-27	
Rust protection Procedure B, ASTM D665	PASS	PASS	PASS	PASS	PASS	PASS	PASS	

## Available in

### Cartons

12 x 1L, 4 x 5L, 6 x 4L,  
6 x 5L

### Pails

18.9L, 20L & 25L

### Drums

200L, 208L



# EMIRATES1 COMPRESSOR OILS

(High Pressure Performance)

## Description

**Emirates1 Compressor Oils (SYN)** are fully synthetic, superior quality air compressor lubricants for extended oil drain intervals with discharge temperatures up to 200°C for stationary and mobile applications. Very effective in screw type compressors with oil injection cooling.

**Emirates1 Compressor Oils (Premium)** are ash less air compressor oils, based on narrow cut high quality mineral oils. Used in almost all compressors, reciprocating, rotary screw and rotary vane type machines with discharge temperatures up to 150°C in stationary and mobile installations.

## Applications

**Emirates1 Compressor Oils** are designed primarily for rotary screw and vane air compressor, particularly effective for continuous high temperature operation with discharge temperatures up to 200°C. Suitable for units with a history of excess oil degradation, poor valve performance or deposit formation & are compatible with all metals used in compressor construction and with mineral-oil compatible elastomers used in seals, O-rings and gaskets, compressor systems with critical gears and bearings, units operating under severe conditions. Reciprocating air compressor crankcases and cylinders. These are not recommended for air compressors used in breathing air applications.

## Product Benefits.

### SYN Series

- Exceptional resistance to oxidative and thermal degradation
- Contribute to reduce fire risk as low oil volatility minimizes carry-over
- Service life up to 8,000 hours
- Contribute to reduce maintenance costs, parts and labor
- Extended oil drain intervals
- Less potential for emulsion formation

### Premium Series

- Excellent wear protection, offering extended equipment life
- Long-term protection against corrosion
- Reduced frequency of change of filter/ separators
- Highly effective rust and corrosion inhibition

## Typical Technical properties

	SYN				Premium			
ISO Viscosity Grade	32	46	68	32	46	68	100	150
Density at 15°C, g/ml, ASTM D4052	0.846	0.849	0.856	0.866	0.873	0.877	0.879	0.866
Kinematic Viscosity at 40°C, mm²/s, ASTM D445	31.5	44.0	66.6	32.0	46.0	68.0	104.6	147.3
Kinematic Viscosity at 100°C, mm²/s, ASTM D445	5.7	7.2	10.1	5.4	6.9	8.9	11.6	14.7
Viscosity Index, ASTM D2270	127	131	136	105	105	105	100	100
Flash Point(COC), °C, ASTM D92	245	246	246	236	238	251	264	269
Pour Point, °C, ASTM D97	-48	-45	-45	-27	-24	-21	-18	-18
Rust Characteristics ASTM D665	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

## Available in

Cartons : 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails : 18.9L, 20L & 25L Drums : 200L, 208L



# EMIRATES1 BAR & CHAIN / SPINDLE OILS

(High Performance Lubricants)

## Description

**Emirates1 Bar & Chain Oils** are premium formulae that meet the requirements of the most demanding applications. These fluids provide excellent operating and maintenance benefits for increased productivity and efficiency. These are designed and recommended for use for all types of chain saws operating with manual or automatic chain oiling systems.

**Emirates1 Spindle Oils** are specifically designed for the lubrication of high-speed spindles in machine tools. They are also used in some critical hydraulic, circulation systems and airline oilers where the appropriate viscosity grade is selected .

## Applications

**Emirates1 Bar & Chain Oils** are also suitable for use in commercial and industrial applications where tacky, non-drip Oils are desired such as open gears, open bearings, and exposed chain drives in mills, forestry, and mining operations.

**ISO 90 – winter:** Designed for winter use, it is the recommended choice where low ambient temperatures are experienced.

**ISO 150 – all season:** the premium formula that started the Klondike revolution. Flexible in application across a wide temperature range.

**ISO 220 – summer:** extra heavy formula custom designed for and preferred by commercial forestry organizations. Heavy weight formula offers outstanding tack, film retention, and anti-wear protection under extreme, high heat operating conditions.

**Emirates1 Spindle Oils** are designed specifically for high speed spindle bearings in machine tools and equipment where high speeds and fine clearances are involved, precision grinders, lathes, jig borers and tracer mechanisms & some sensitive instruments such as telescopes, laboratory equipment, etc. & low pressure hydraulic systems.

## Properties

**Emirates1 Bar & Chain oils** are manufactured with paraffinic base oils and high performance additives. They ensure reliable and consistent cutting performance in high performance hand-held and mechanized saws operating in all climates and cutting all types of wood. These bar and chain oils are designed to operate over a broad temperature range, resulting in lower maintenance cost and equipment down time.

**Emirates1 Spindle Oils** exhibit the required properties to function as low pressure hydraulic and circulating oils as long as the proper viscosity is selected. This feature can help minimize inventory costs and reduce the potential for product misapplication.

## Product Benefits.

- High viscosity index
- Professional formula
- Optimal oil service life
- Allows easy removal of moisture from system reservoirs
- Superior thermal stability
- Smooth operation.
- Maximum equipment life
- Helps reduce critical deposit formation

## Typical Technical properties

ISO Viscosity Grade	SPINDLE OILS					BAR & CHAIN OILS		
	2	4	10	15	22	90	150	220
Appearance, Visual	Amber	Amber	Amber	Amber	Amber	B&C	B&C	B&C
Density at 15°C, g/ml, ASTM D4052	0.802	0.822	0.844	0.854	0.862	0.865	0.870	0.875
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	2.10	4.83	10.00	15.00	22.00	90	150	220
Flash Point(COC), °C, ASTM D92	84	102	180	194	212	220	230	250
Pour Point, °C, ASTM D97	-36	-15	-15	-9	-30	-36	-18	-9

## Available in

Cartons : 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails : 18.9L, 20L & 25L Drums : 200L, 208L



# EMIRATES1 TURBINE OILS

(Long Life Turbine Oils)

## Description

**Emirates1 Turbine Oils** are advanced, specialized fluids designed to provide exceptional lubrication and cooling benefits for industrial turbine systems where the highest quality rust and oxidation inhibited lubricants are required. These fluids provide excellent operating and maintenance benefits across a broad temperature range for increased efficiency, performance, and equipment protection. These have increased discharge flow rates and decreased internal pump leakage rates resulting in increased pumping efficiency, and less fluid leakage and waste.

## Applications

**Emirates1 Turbine Oils** are designed and recommended for use in turbine systems operating on steam or gas as well as a high temperature bearing lubricant and coolant. These oils are formulated to meet the demands of non-gearied steam, hydro-electric, and gas turbine and bearing lubrication. They are also ideal for reduction gear assemblies in certain marine Applications. These are excellent lubricants for many other industrial Applications such as air-line lubricators, industrial gear cases, and air compressor Applications where R&O oils are recommended by the OEM.

## Properties

**Emirates1 Turbine Oils** are manufactured with the highest quality, ultra-pure paraffinic base oils and high performance additives. These advanced base oils have been chosen to ensure exceptional performance and provide long term, trouble free service. Special inhibitor technology enhances these products by improving resistance to oxidation breakdown and inhibiting the formation of deposits on critical machinery surfaces, delivering reliable and consistent performance in industrial circulation systems that are subject to wide ambient and system operating temperatures. This special technology also includes advanced foam and air release control as well as improved low temperature operation capability improved by cold flow improvers.

## Product Benefits.

- High viscosity index
- Foam control
- Optimal oil service life
- Superior thermal stability
- Smooth operation.
- Excellent fluid stability and water separation characteristics

## Recommendations/Specifications

*Emirates1 Turbine Oils* are recommended for use where the following specifications are required (in the appropriate viscosity Grade): General Electric – GEK 28143A, GEK 32568F, GEK 46506D, CEK 27070, GEK 107395, ABB – K 110 812101, British Standard – 489, Westinghouse – 1500 00 20, Solar Turbines – ES 9 224, Cooper – SE 1144, Siemens – TLV 901304, 901305, Siemens Westinghouse – M-55125Z3, ALSTOM (ABB) – HTGD 90117, ASTM – D4304 type I, DIN – 51515 Part 1, Part 2, 51524 Part-I, Cincinnati Machine P-38, P-54, P-55, MIL-L-17672C/D, AFNOR – E 48600 HL, US Steel – 126 & Denison HF-1

## Typical Technical properties

ISO Viscosity Grade	32	46	68	100	150
Appearance, Visual	B&C	B&C	B&C	B&C	B&C
Density at 15°C, g/ml, ASTM D4052	0.860	0.865	0.870	0.875	0.875
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	32	46	66.4	100	150
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	5.56	7.00	8.86	11.66	15.08
Viscosity Index, ASTM D2270	110	108	106	104	100
Flash Point(COC), °C, ASTM D92	200	210	220	226	230
Pour Point, °C, ASTM D97	-39	-36	-33	-30	-27
Copper Corrosion (3hr@100°C), ASTM D130	1.0	1.0	1.0	1.0	1.0
Rust protection Proc B, ASTM D665	Pass	Pass	Pass	Pass	Pass
Distilled Water	Pass	Pass	Pass	Pass	Pass
AGMA grade	-	1	2	3	4

## Available in

Cartons : 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L   Pails : 18.9L, 20L & 25L   Drums : 200L, 208L



# EMIRATES1 ROCK DRILL OILS

(High Performance Drill Oils)

## Description

**Emirates1 Rock Drill Oils** are specially formulated to lubricate and cool the internal mechanisms and moving parts of pneumatic drilling equipment. This advance fluid provides reliable and efficient performance in extreme conditions for increased productivity and long equipment life.

## Applications

**Emirates1 Rock Drill Oils** are designed for use as an airline and operating lubricant for high air flow pneumatic drilling equipment operating in heavy duty service environments. These Applications include pneumatic equipment used for mining, tunneling, sample drilling, jack-hammers, pavement breakers, compactors, and other pneumatic equipment. **ISO 32** formula is specially designed for low temperature operations. Advanced ISO 150 formula ensures maximum equipment protection and operating efficiency across a wide range of applications operating across a wide temperature range for excellent performance across all seasons. Equally adept at meeting the needs of small, high speed drills along with the heavy duty demands of large, slow speed drills operating in extended service and high temperature conditions.

## Properties

**Emirates1 Rock Drill Oils** are manufactured with premium paraffinic base oils and specialized, high performance additives. This carefully balanced blend of anti-wear, performance improving additive technology ensures extended, trouble free service in heavy duty rock drills operating at high temperature and under extreme pressure. This fluid is designed to operate over a broad temperature range, helping lower maintenance costs and equipment down time. Although designed specifically for use in pneumatic equipment, this versatile fluid may also be used in general purpose lubricant applications where clear, tacky, corrosion inhibited oils are recommended.

## Product Benefits.

- Long equipment life
- Low mist tendency
- Optimal oil service life
- Extreme pressure protection
- Smooth operation.
- Minimized downtime

## Recommendation

**Emirates1 Rock Drill Oils** meets the specification requirements of (but not limited to) the following equipment manufacturers: Gardner Denver, Chicago Pneumatic, and Joy Manufacturing & Ingersoll-Rand

## Typical Technical properties

ISO Viscosity Grade	32	68	100	150	220
Appearance, Visual	B&C	B&C	B&C	B&C	B&C
Density at 15°C, g/ml, ASTM D4052	0.870	0.874	0.875	0.878	0.880
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	32	68	100	150	220
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	5.4	8.5	11.1	14.6	18.5
Viscosity Index, ASTM D2270	102	105	102	100	100
Flash Point(COC), °C, ASTM D92	204	210	220	230	240
Pour Point, °C, ASTM D97	-36	-33	-30	-27	-24

## Available in

Cartons : 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L   Pails : 18.9L, 20L & 25L   Drums : 200L, 208L



# EMIRATES1 HEAT TRANSFER & CIRCULATING FLUIDS

## Description

**Emirates1 Circulating Fluids** are premium performance circulating lubricants formulated from highly refined base stocks and an additive system, which provide an extremely high level of chemical and thermal stability, rapid and complete separation from water and a high resistance to emulsification providing excellent protection against rust and corrosion, including resistance to salt water, and good anti-wear properties.

**Emirates1 Heat Transfer Fluids** are high performance HTOs formulated from highly refined base stocks that are resistant to thermal cracking and chemical oxidation & are intended for use in closed indirect heating installations. The flash points of these oils will not decrease significantly in service because of their resistance to thermal cracking at the operating temperatures for which they are recommended.

## Applications

**Emirates1 Circulating Fluids** are designed specifically for the following applications:

- Turbines with oil supplied by splash, bath, ring oiling or other mechanical means
- Continuous service in plain and roller bearings and parallel shaft gearing
- Land-based and marine steam turbine, hydro turbine and some gas turbine circulation systems, including pumps, valves and other ancillary equipment
- Compressors and vacuum pumps handling air, natural gas, and inert gases, and with discharge temperatures not exceeding 150°C
- Moderate severity hydraulic pumps

**Emirates1 Heat Transfer Fluids** are recommended for use in open and closed installations where the bulk oil temperature ranges are as outlined in the table below and where minimum shutdown temperatures are not below -7°C.

- Bulk Oil Temperature Ranges for HTO 22: Closed Systems (-7°C to 285°C), Open Systems (-7°C to 150 °C)
- Bulk Oil Temperature Ranges for HTO 32: Closed Systems (-7°C to 315 °C), Open Systems (-7°C to 180 °C)
- Closed, cold-oil sealed, indirect heating and cooling systems in all kinds of industrial processes operating at bulk oil temperatures up to the maximum temperatures quoted in the table above and at atmospheric pressure
- Open systems provided the bulk temperatures do not exceed the maximum temperatures quoted in the table above

## Recommendation

**Emirates1 Circulating Fluids** Meet or exceeds the requirements of: DIN 51515-1: 2010-02, DIN 51517-2: 2009-06, GE GEK 46506D, GE GEK 27070, GE GEK 28143A, JIS K-2213 Type 2 w/Additives (1983)

**Emirates1 Heat Transfer Fluids** Meet or exceeds the requirements of: FDA 21 CFR 178.3570, DIN 51522 (1998 - 11), NSF H1, NSF HT1 Classified as ISO 6743-12 Family Q

## Typical Technical properties

ISO Viscosity Grade	HEAT TRANSFER FLUIDS					CIRCULATING FLUIDS				
	22	32	32	46	68	100	150	220	320	460
Density at 15°C, g/ml, ASTM D4052	0.843	0.857	0.850	0.860	0.870	0.880	0.884	0.889	0.893	0.891
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	20.2	29	31.0	44.5	65.1	95.1	150	220	320	460
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	4.2	5.1	5.5	6.9	8.7	10.9	14.4	18.4	23.3	28.9
Viscosity Index, ASTM D2270	111	103	102	98	95	92	93	92	91	89
Flash Point(COC), °C, ASTM D92	200	220	218	222	224	238	242	254	262	270
Pour Point, °C, ASTM D97	-30	-24	-18	-15	-15	-15	-12	-9	-6	-3
Copper Strip Corrosion, ASTM D 130,3 hrs @ 121° C	1A	1A	1B	1B	1B	1B	1B	1B	1B	1B

## Available in

Cartons : 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails : 18.9L, 20L & 25L Drums : 200L, 208L



# EMIRATES1 NEAT & SOLUBLE CUTTING FLUIDS

## Description

**Emirates1 Soluble Cutting Fluid** is an effective, multipurpose soluble oil for cutting and machining operations. It is a multi-functional, emulsifiable cutting fluid. When mixed with water, this fluid forms a very stable, milky white emulsion, offering excellent cooling ability and the necessary lubricity and extreme pressure characteristics for effective machining operations. This fluid resists foaming, is inhibited with an effective anti-microbial biocide agent, and offers high reserve alkalinity for long service life. Such a fluid can satisfy up to 80% of all general machining requirements.

**Emirates1 Neat Cutting Fluid** are high performance mineral-oil-type, non-staining cutting oils. They contain a balanced selection of additives that maximizes performance. They meet the anti-weld and lubricity requirements of moderate machining operations on most alloys. These cutting oils do not stain either ferrous or nonferrous metals during cutting operations and, likewise, will not stain after machining.

## Applications

**Emirates1 Soluble Cutting Fluid** is a multi-purpose machining fluid designed for use in metal working applications where cooling and rust protection are of prime importance. When mixed to the correct ratios, typical applications include cutting, sawing, turning, boring, milling, and grinding. Typical application ratios for EMIRATES1 Soluble Cutting Oil include (but are not limited to): 40:1 – grinding, 20:1 – quenching induction heated parts and as a roll coolant, 20:1 – sawing and light cutting operations, 15:1 – general purpose cutting and drilling, 10:1 – rust prevention in water based hydraulic systems.

EMIRATES1 Neat Cutting Fluid is a high performance cutting oil for operations on light and medium alloy steels, aluminum and yellow metals. EMIRATES1 Neat Cutting Fluid has multipurpose oil characteristics from both hydraulic oil and gear oil. It has a good de-aeration power, does not foam much and is not aggressive with the paints on machine tools.

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## Product Benefits.

- Excellent machining capability
- Multipurpose applications
- Less misting tendency
- Stable emulsion
- Anti-wear performance
- Good tool life

## Typical Technical properties

CUTTING FLUIDS	SOLUBLE	NEAT
Density at 15°C, g/ml, ASTM D4052	0.94	0.88
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	38	32
Emulsion stability	Pass	-
Flash point in °C (ASTM D 93)	190	180
Appearance	Dark amber	Yellow
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100° C, max	1A	1A

## Available in

Cartons : 112 x 1 L, 24x1 L, 4x5 L, 6 x 4 L, 6 x 5 L Pails : 18.9 L, 20 L & 25 L Drums : 200 L, 208 L



# EMIRATES1 QUENCHING & RUSTOIL FLUIDS

(Premium Quality Quenching & Corrosion Fluids)

## Description

**Emirates1 Quenching Fluids** are a series of premium quality oils designed especially for use as heat-treating fluids. It consists of two grades: one medium-viscosity, dual-purpose oil for both conventional quenching and mar quenching; and one high-viscosity oil specifically for mar quenching. Both grades are made with highly refined base oil fortified with special additives to meet the exacting requirements of heat-treating oils.

**Emirates1 Quenchoil 32** is a medium-viscosity, dual-purpose oil designed for both conventional quenching and mar quenching. It has exceptional oxidation stability, and therefore does not require replacement as frequently as conventional oils. In addition, it will leave fewer residues on quenched parts.

**Emirates1 Quenchoil 100** is a high viscosity, long-life oil designed especially for mar quenching. It has the high flash point required in high temperature protected-atmosphere systems and has the excellent oxidation stability required in unprotected systems (exposed to atmosphere).

**Emirates1 Rustoile Fluids** are designed to protect parts from the risks of corrosion during storage and transportation. They can be applied to all ferrous metals, from cast iron to alloyed steels.

**Protection Fluids** constitute wide range of products in accordance with the required properties of the protective film;  
i) Nature and thickness of the film: oil based, waxy or solvated  
ii) Resistance over time: inter-operations protection with water-repellent effect or a longer-lasting protection.

## Applications

**Emirates1 Quenchoil 32** is a dual-purpose oil designed for both conventional quenching and marquenching. It can be used in open quenching systems where operating temperatures are as high as 93°C and in closed systems in which temperatures are as high as 150°C.

**Emirates1 Quenchoil 100** is designed especially for marquenching. It is recommended for protected-atmosphere systems where temperatures are as high as 190°C and unprotected systems (exposed to atmosphere) with quench bath temperatures up to 135°C.

**Emirates1 Rustoile Fluid** can be applied by dipping spray and brush application. They can be removed with the aid of solvents and alkali cleaners. Corrosion preventive oil specifically developed for superior water displacement capability, medium-term protection & good lubricity performance.

## Typical Technical properties

EMIRATES1 QUENCHING & RUSTOIL FLUIDS	QUENCHING FLUIDS	RUSTOIL FLUID
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	32	100
Flash Point(COC), °C, ASTM D92	200	238
		206

## Available in

Cartons : 12 x 1L, 4 x 5L, 6 x 4L, 6 x 5L Pails : 18.9L, 20L & 25L Drums : 2200L, 208L





#### **UAE**

Level 41, Emirates Towers  
Sheikh Zayed Road,  
Dubai 31303 - UAE

#### **FACTORY**

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Ajman 8482 - UAE

#### **UNITED KINGDOM**

276-278 Penn Road  
Wolverhampton WV44AD  
Contact : +447892170550

#### **CANADA**

6265, Netherhart Road  
Mississauga  
Ontario, L5T 1A2



#### **Available Packing**

**Oil :** 1L, 3.78L (1USG), 4L, 5L, 18.9L, 20L, 25L, 60L, 200L, 208L, 1000L

**Grease:** 500 Gms, 1 Kgs, 15 Kgs, 60 Kgs & 180 Kgs



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