

Brief Product Description Book

2025 edition - Canada English



MobilTM

Brief Product Description Book

2025 edition - Canada English



505 Quarry Park Blvd. SE
Calgary, Alberta T2C 5N1
www.imperialoil.ca

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The primary intent of this publication is to provide a field reference for our core branded product offering of lubricating oils and greases. This guide provides specific product information in a format that is intended to assist in the selection of the right product for your application.

The Brief Product Description Book is organized into six sections— **Industrial Lubricants, Commercial Vehicle Lubricants, Passenger Vehicle Lubricants, Greases, Aviation** and **Marine**. Within each of these six sections, products are divided into application groups, and thickener type in the case of greases. An outline of these groups and their respective products is provided at the beginning of each of the six sections. An alphabetical list of applications is provided up front. An appendix also provides other reference information. **All products may NOT be available locally**, check the current stock plan for availability in your region.

Due to continual product research and development, the information contained herein is subject to change without notification. Typical properties of products displayed in this book are representative values obtained with normal production tolerance and do not constitute a specification. Variations in typical properties that do not impact product performance are to be expected during normal manufacture. The information contained herein is subject to change without notice. For additional and/or more current information about our products, refer to the online product data sheets at exxonmobil.com/en/pds. Contact the Technical Support Center at 1-800-268-3183 or your local Imperial representative who can also provide assistance.

Many petroleum products pose potential human health, safety, and environmental hazards and this description book can be used as a guide to understand these hazards.

QUESTIONS?

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tsc.americas@exxonmobil.com

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¹ To see more details please go to page 67 of this book.

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Mobil[®] SHC[™] 600 Series lubricants are exceptional performance gear and bearing oils designed to provide outstanding service in terms of equipment protection, oil life and problem-free operation helping to enable increased customer productivity. These scientifically engineered oils are formulated using the latest proprietary and Mobil SHC technology to provide outstanding and balanced performance in demanding applications at high and low temperatures. Mobil SHC 600 products feature excellent low temperature properties, as well as improved air release performance in the lower viscosity grades. These products are resistant to mechanical shear, even in heavily loaded gear and high shear bearing applications, so that there is virtually no loss of viscosity. Mobil SHC 600 is less corrosive to yellow metals (bronze) so is appropriate for use in many applications that extreme pressure (EP) oils, containing active sulfur, may not be.

	Kinematic Viscosity, ASTM D445					Flash Point °C, ASTM D92	FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1(mod)
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 5950		
MOBIL SHC 624	32	32	6.3	148	-57	236	11
MOBIL SHC 625	46	46	8.5	161	-54	225	12
MOBIL SHC 626	68	68	11.6	165	-54	225	12
MOBIL SHC 627	100	100	15.3	162	-48	235	12
MOBIL SHC 629	150	150	21.1	166	-48	220	13
MOBIL SHC 630	220	220	28.5	169	-48	220	13+
MOBIL SHC 632	320	320	38.5	172	-48	225	13+
MOBIL SHC 634	460	460	50.7	174	-45	228	13+
MOBIL SHC 636	680	680	69	181	-45	225	13+
MOBIL SHC 639	1000	1000	98.8	184	-42	222	13+

Mobil[®] Glygoyle[™] 22 and 30 oils are polyalkylene glycol-based (PAG), water insoluble high performance lubricants that provide outstanding lubrication in higher temperature gear, bearing and circulation system applications in conditions well beyond the capabilities of mineral oils. They are shear-stable and have outstanding resistance to thermal degradation, oxidation and the formation of sludge and deposits. They incorporate a proprietary additive package designed to enhance EP/anti-wear protection, corrosion and rust protection and foam resistance without detracting from the intrinsic attributes of the PAG base oils. They are recommended for use by major plastic calendar, paper machine bearing, compressor and gear manufacturers, and are the products of choice for many severe service applications.

The Mobil Glygoyle Series is not compatible with mineral oils and most other synthetic lubricants. Additionally, depending on the specific type of PAG base fluid, they may not be compatible with other PAG type lubricants. (e. g. Mobil Glygoyle No Series and Mobil Glygoyle ISO VG Series are not miscible). The Mobil Glygoyle Series is not generally recommended for use in systems previously filled with mineral oils or PAO based synthetic lubricants. It is further recommended to check compatibility when topping up or replacing existing PAG fillings with Mobil Glygoyle Series, generally the preference is to avoid mixtures by draining, flushing and refilling. When changing from mineral oil or other synthetic products to Mobil Glygoyle Series, it is critical to clean the system thoroughly and flush with suitable fluids prior to conversion. For further details please contact your ExxonMobil representative.

	Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 15°C, ASTM D 1298
	cSt at 40°C	cSt at 100°C			
MOBIL GLYGOYLE 22	177	25.1	-41	229	1.007
MOBIL GLYGOYLE 30*	224	30.9	-41	221	1.006

*This product is only available in the US.

Mobil[®] Vacuoline[™] 100 Series range is a series of extra high quality circulating system oils primarily intended for the lubrication of plain bearings in systems designed for full fluid lubrication, particularly those subjected to heavy water contamination, such as may be used for back-up roll bearings in metal rolling mills. Specifically, they meet the requirements for rolling mill bearings including the the Morgan "super demulsibility" specification as defined by Morgan's Advanced Lubricant Specification, Revision 2.5a. The Mobil Vacuoline 100 Series oils are formulated from high quality base stocks and additives to provide outstanding water separation ability, good resistance to thermal degradation and oxidation, and protection against rust and corrosion. They enjoy strong support of key equipment builders including Primetals Technology, Sutton MA, USA.

	Kinematic Viscosity, ASTM D445				Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 15°C kg/L, ASTM D 4052
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270			
MOBIL VACUOLINE 128	150	150	14.8	96	-9	280	0.9
MOBIL VACUOLINE 133	220	220	18.8	95	-6	288	0.9
MOBIL VACUOLINE 137	320	320	23.9	95	-9	286	0.9
MOBIL VACUOLINE 146	460	460	30.1	95	-6	296	0.9
MOBIL VACUOLINE 148	680	680	36.7	91	-6	318	0.9

Mobil[®] Vacuoline[™] 500 Series family of products provides a versatile lubricant source for a wide range of industrial equipment. The Mobil Vacuoline 500 Series of lubricants are high performance heavy duty circulating oils designed for the demands of No-Twist Rod mills, however their all-round performance makes them an excellent choice for circulation systems lubricating gears and bearings. Mobil Vacuoline 500 Series are designed to meet the critical requirements of the Morgan Vee No-Twist Rod Mills, as well as the circulation oil requirements of Danielli rod mills.

	Kinematic Viscosity, ASTM D445				Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270		
MOBIL VACUOLINE 525	-	89	10.7	99	-24	264
MOBIL VACUOLINE 528	150	146	14.4	96	-21	272
MOBIL VACUOLINE 533	220	215	18.8	96	-15	284
MOBIL VACUOLINE 537	320	309	24.4	96	-12	288
MOBIL VACUOLINE 546	460	453	29.4	95	-12	286

Teresstic[™] Series is the brand name formulated for long-service-life in circulating lubricants, hydraulic systems that do not require an anti-wear oil, heat transfer system, light duty gear cases, friction clutches and other industrial units for which long, trouble-free service is required.

The maximum recommended bulk oil temperature for Teresstic 32 is 185°C for open systems and 285°C for closed systems. For Teresstic 46, the maximum recommended temperature is 200°C for open systems and 300°C for closed systems. Teresstic 68 has a maximum recommended temperature of 210°C for open systems and 310°C for closed systems. Lastly, Teresstic 100 has a maximum recommended temperature of 225°C for open systems and 325°C for closed systems.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97
	ISO VG	cSt at 100°C		
TERESSTIC 32	32	5.3	96	-21
TERESSTIC 46	46	6.6	95	-12
TERESSTIC 68	68	8.5	95	-12
TERESSTIC 77	-	9.3	95	-12
TERESSTIC 100	100	11.1	95	-12
TERESSTIC 150	150	14.5	95	-12
TERESSTIC 220	220	18.8	95	-12
TERESSTIC 320	320	24	95	-12
TERESSTIC 460	460	30.4	95	-12

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INDUSTRIAL LUBRICANTS

CIRCULATING OILS

Mobil™ DTE™ Oil Named Series of lubricants are premium performance circulating lubricants designed for applications including steam and hydro turbine sets and other systems where long lubricant service life is required. Mobil DTE Oil Named Series lubricants are formulated from highly refined base stocks and an additive system which provide an extremely high level of chemical and thermal stability, rapid separation from water, offering and a high resistance to emulsification. They provide excellent protection against rust and corrosion, and good antiwear properties. These grades have rapid air release and low foam properties which allow entrained air to separate, thus avoiding pump cavitation and erratic operation.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL DTE OIL LIGHT	32	31.0	5.5	102	-18	218
MOBIL DTE OIL MEDIUM	46	44.5	6.9	98	-15	221
MOBIL DTE OIL HEAVY MEDIUM	68	65.1	8.7	95	-15	223
MOBIL DTE OIL HEAVY	100	95.1	10.9	92	-15	237

Mobil™ DTE™ Oil Extra Heavy and Double Letter lubricants are high performance heavy duty circulating oils primarily intended for continuous reuse in circulation lubrication systems for gears and bearings. They are formulated from high quality base stocks and a proprietary additive system to provide superior protection against rust, excellent resistance to oxidation and thermal degradation, and a high level of protection against wear, plus excellent resistance to high temperature corrosion of soft metals. They possess good demulsibility that permits water and other contaminants to separate readily from the oil in the system reservoir.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL DTE OIL EXTRA HEAVY	150	146	14.4	96	-21	272
MOBIL DTE OIL BB	220	218	18.8	96	-18	284

INDUSTRIAL LUBRICANTS

COMPRESSOR LUBRICANTS

Mobil™ SHC™ Rarus™ Series oils are supreme performance air compressor lubricants primarily intended for the lubrication of severe duty rotary screw and vane air compressors. They are particularly suited for severe service where synthetic oil-based products are not meeting expectations such as in severe applications subjected to high final compression temperatures or where extended oil drain intervals are desired. Mobil SHC Rarus Series formulation provides the potential to deliver up to 3 times oil drain interval versus a leading synthetic compressor lubricant.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL SHC RARUS 32	32	30.6	5.6	123	-42	204
MOBIL SHC RARUS 46	46	44.1	7.1	122	-45	197
MOBIL SHC RARUS 68	68	65.3	9.7	129	-39	192

Mobil™ Rarus™ 800 Series is a line of supreme performance air compressor lubricants primarily intended for the lubrication of severe duty reciprocating air compressors but not recommended for air compressors used in breathing air applications. They are engineered to meet or exceed the stringent requirements of the major compressor manufacturers. They are formulated with design-specific synthetic base-oils and a high technology additive system that assures exceptional equipment protection and reliability for compressors operating under conditions where mineral-oil based products are not meeting expectations. Mobil Rarus 800 Series is a di-ester oil that provides excellent wear protection and outstanding resistance to oxidation and thermal degradation, greatly superior to mineral oils. Their unique formulation provides the ability to help reduce maintenance costs through minimizing equipment problems and downstream deposits and carryover. They are recommended or approved by many of the leading compressor manufacturers.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL RARUS 824	32	29.5	5.5	127	-54	244
MOBIL RARUS 827	100	107.5	10.12	66	-36	270
MOBIL RARUS 829	150	158	13.2	70	-33	270

Mobil™ SHC™ Cibus™ Series.....15

INDUSTRIAL LUBRICANTS

COMPRESSOR LUBRICANTS

Mobil™ Rarus™ 400 Series is a line of premium performance ashless air compressor lubricants designed to meet the stringent requirements of major compressor manufacturers. They are formulated with high quality mineral base-oils and a high performance additive system designed to provide exceptional equipment protection and reliability for compressors operating under mild to severe conditions. They provide excellent wear protection and the ability to reduce maintenance costs through minimizing equipment problems and downstream deposits and carryover.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C		
MOBIL RARUS 427	100	104.6	11.6	100	264
MOBIL RARUS 429*	150	147.3	14.7	100	269

*This product is only available in the US.

Mobil™ Pegasus™ Compressor Oil Series are lubricants specifically formulated from highly refined paraffinic base oils and high performance additives to provide excellent performance in reciprocating natural gas compressors. Both ISO viscosity grades are formulated for outstanding cylinder and piston ring lubrication, excellent oxidation resistance, and excellent chemical tolerance.

	Kinematic Viscosity, ASTM D445			Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C		
MOBIL PEGASUS COMPRESSOR OIL 264	-	280	23	-12	280
MOBIL PEGASUS COMPRESSOR OIL 460	460	485	35	-12	280

Mobil™ Rarus™ R-C 220 is a viscous, colourless oil of ISO viscosity grade 220, specifically designed for the lubrication of very high pressure ethylene compressors. It is based on high purity, saturated hydrocarbon oils (white oils), supplemented with friction reducing and free-radical trap additives at adapted treat levels.

	Kinematic Viscosity, ASTM D445			Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C		
MOBIL RARUS R-C 220	226	-	-	-12	210

Mobil™ Rarus™ PE KPL 201 is a medium viscosity, colorless oil. It is based on high purity, saturated hydrocarbon oils, supplemented with friction-reducing and free-radical trap additives at adapted treat levels. This oil is only used for low-density polyethylene compression.

	Kinematic Viscosity, ASTM D445			Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C		
MOBIL RARUS PE KPL 201	117	-	-	-12	230

This product is only available in the US.

Mobil™ Pegasus™ SCF Series are premium lubricants designed for process and gas rotary screw compressors. Mobil Pegasus SCF are recommended when compressing light hydrocarbons, sour gas, with low water content. Mobil Pegasus SCF Series lubricants are especially effective in combating corrosion and promoting long life in sour hydrocarbon gas compressors. Mobil Pegasus SCF lubricants are compatible with the system elastomers and seals found in most compressors designed to use petroleum based products.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL PEGASUS SCF 100	94	11.8	116	-37	248	
MOBIL PEGASUS SCF 150	153	17.1	121	-30	271	

These products are only available in Canada.

Mobil™ Pegasus™ SCF Extra Series are custom-blended hydro treated mineral oil / polyalphaolefin (PAO) synthetic hydrocarbon oil. The proprietary multi-function silicone additive provides enhancement as a lubricity improver, an anti-foamant to minimize foaming, and a pour point depressant to provide lower temperature operation capability.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL PEGASUS SCF EXTRA 100	101	13.5	135	-33	277	
MOBIL PEGASUS SCF EXTRA 150	144	17.6	135	-33	288	

These products are only available in Canada.

Teresstic™ Series.....11
Mobil™ DTE™ Oil Named Series.....12
Mobil™ DTE™ Oil Extra Heavy and Double Letter.....12
Mobil™ SHC™ 600 Series.....11
Mobil™ Glygoyle™ Series.....23
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Centrifugal compressor oils are listed under the Turbine Oils section.

INDUSTRIAL LUBRICANTS

ENVIRONMENTALLY ACCEPTABLE

The Mobil[®] SHC[™] Aware[™] HS Series (hydraulic system) meets US Vessel General Permit (VGP) 2013¹ for environmentally acceptable lubricants and EU Ecolabel requirements, while offering excellent protection in hydraulic systems. Biodegradable, minimally toxic and non-bioaccumulative, these lubricants can be used in hydraulic systems where spills or leakage could result in adverse environmental impact.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL SHC AWARE HS 32	32	32	6.5	167	-48	185
MOBIL SHC AWARE HS 46*	46	46	8.7	176	-48	185
MOBIL SHC AWARE HS 68*	68	68	11.8	174	-48	185

*These products are only available in the US.

Mobil[®] SHC[™] Aware[™] Gear Series are a range of high performance, anti-wear gear oils for use in marine applications and meet the U.S. Environmental Protection Agency (EPA) 2013 Vessel General Permit (VGP) guidelines for environmentally acceptable lubricants¹. They provide excellent wear protection for gears and bearings and safeguard equipment from rust and corrosion. They also possess outstanding oxidation properties, which help to extend oil life, and offer a wide operating temperature range and excellent low temperature start-up. Mobil SHC Aware Gear Series demonstrate excellent air release properties versus typical mineral gear oils, resulting in less air entrainment and protection from cavitation. Furthermore, their excellent seal compatibility helps to minimize leaks.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL SHC AWARE GEAR 68	68	68	10.7	141	-36	273
MOBIL SHC AWARE GEAR 100	100	100	13.3	137	-36	287
MOBIL SHC AWARE GEAR 150	150	150	17.8	135	-30	281

Mobil[®] EAL[™] 224H¹ is a premium performance environmentally acceptable hydraulic fluid designed to provide outstanding performance in hydraulic and circulation systems operating at moderate conditions. It provides excellent anti-wear and film strength characteristics necessary for hydraulic systems operating under high load and high pressures. Its 12-stage rating in the FZG Gear Load test demonstrates a high level of protection against wear and scuffing and the suitability of this product to protect gears and bearings used in conjunction with hydraulic systems. Mobil EAL 224H provides excellent protection against corrosion and ensures very good multi-metal compatibility allowing its use in systems employing various metallurgy that may be used in pump and component designs. It also provides very good thin oil film protection against rusting.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C		
MOBIL EAL 224H	36.78	8.3	212	-34

¹ To see more details please go to page 67 of this book.
^{II} To see more details please go to page 67 of this book.

^I To see more details please go to page 67 of this book.

INDUSTRIAL LUBRICANTS

FOOD INDUSTRY LUBRICANTS

Mobil[®] SHC[™] Cibus[™] Series lubricants are outstanding performance hydraulic, compressor, gear and bearing oils designed to provide outstanding equipment protection, long oil life and problem-free operation in the food and beverage processing and packaging industries. They are formulated from FDA and NSF registered hydrocarbon base fluids and additives. The combination of the naturally high viscosity index and the proprietary additive system enables the Mobil SHC Cibus series lubricants to provide outstanding performance in a wide range of service applications at high and low temperatures, high loading and in areas of high wash-down well beyond the capabilities of typical mineral oils. Mobil SHC Cibus lubricants are NSF H1 registered lubricants and also comply with Title 21 CFR 178.3570 by the Food and Drug Administration (USA) for lubricants with incidental food contact. Also, the Mobil SHC Cibus Lubricants are manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels of product integrity are maintained. They are also suitable for Kosher and Halal food preparation for multi faith applications and to offer processing engineers maximum flexibility during operations. The products meet the most rigorous performance requirements of a range of component manufacturers using various multi-metallurgy designs that help allow a single product series to lubricate effectively. Because they offer productivity and NSF H1 registration benefits, the Mobil SHC Cibus products can be used both above and below the processing line to reduce inventory costs and reduce the risks of non H1 registered lubricants being dispensed in high contamination risk areas. Mobil SHC Cibus 150-460 will not contribute to MOAH content in food when used in accordance with FDA 21CFR178.3570 limitations.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 15°C, ASTM D 4052
		cSt at 40°C	cSt at 100°C				
MOBIL CIBUS 32	32	30.7	5.8	134	-51	244	0.84
MOBIL CIBUS 46	46	46.4	7.9	140	-50	244	0.85
MOBIL CIBUS 68	68	67.5	10.4	140	-47	258	0.85
MOBIL CIBUS 100	100	100	14.6	143	-45	270	0.84
MOBIL CIBUS 150	150	162	20.7	150	-21	226	0.84
MOBIL CIBUS 220	220	222	24.5	139	-24	274	0.84
MOBIL CIBUS 320	320	311	32.7	147	-42	284	0.85
MOBIL CIBUS 460	460	458	43.6	148	-42	294	0.86

Mobil[®] SHC Cibus[™] 32 HT is a fully synthetic high performance heat transfer oil intended for use in closed, indirect heating installations where NSF H1 registered lubricants are required. It is formulated to resist thermal cracking and chemical oxidation which in turn can mean a longer service life and lower propensity for deposit and sludge formation.

Mobil SHC Cibus 32 HT is NSF H1 and HT registered and accepted by the Canadian Food Inspection Agency and is therefore suitable for applications where incidental food contact may occur. Also, the Mobil SHC Cibus 32 HT is manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels product integrity are maintained. It is also suitable under Kosher (Parve) and Halal dietary law and is formulated to be free from nuts, gluten, wheat and animal products. It meets DIN 51522 heat transfer fluids requirements and testing.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL SHC CIBUS 32 HT	30.4	5.91	135	-54	234

Mobil [®] Glygoyle [™] Series.....	23
Mobil [®] Gargoyles Arctic SHC [™] 200 Series.....	31
Mobil [®] Synturion [™] Series.....	28

Mobil[®] DTE[™] FM Series oils are high performance lubricants designed to satisfy a wide range of multi-use equipment requirements for the food processing and packaging industry. These lubricants are qualified as NSF H1 type lubricants and also comply with Title 21 CFR 178.3570 by the Food and Drug Administration (USA) for use where there is the potential for incidental food contact. Mobil DTE FM Series are manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels of product integrity are maintained. The lubricants are tasteless, odorless, premium quality lubricants formulated with non-toxic NSF/FDA food grade additives and base oils. These products meet the most rigorous performance requirements of a wide range of system and component manufacturers using various multi-metallurgy designs allowing a single product with outstanding performance characteristics.

Mobil DTE FM Series will not contribute to MOAH content in food when used in accordance with FDA 21CFR178.3570 limitations.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 15.6°C/15.6°C, ASTM D 4052
		cSt at 40°C	cSt at 100°C				
MOBIL DTE FM 32	32	31.9	5.5	106	-12	212	0.862
MOBIL DTE FM 46	46	45.5	6.8	105	-9	226	0.868
MOBIL DTE FM 68*	68	68.5	8.7	101	-12	228	0.873

*This product is only available in the US.

Please refer to the Greases chapter for detailed information on greases designed for the food industry.....54

INDUSTRIAL LUBRICANTS

FOOD INDUSTRY LUBRICANTS

Food & Beverage Industry

The food and beverage processing industry faces unique challenges. Not only must you strive for maximum productivity, you must also guard against the possibility of food contamination, including contamination from lubricating oils and greases. This comprehensive suite of high-performance oils are NSF H1 registered, which is increasingly being requested by major food retailers and government agencies.

Product	DIN Performance Claim	NSF Registered Number	NSF H1	Kosher Approval	Halal Approval	CFIA* Accepted	Comments
Mobil SHC Cibus™ 32	51524-HLP	141500	●	●	●	●	Multi-purpose hydraulic and compressor oils for the optimum lubrication solution. Long life, excellent equipment protection to help maximize productivity. Long drain intervals.
Mobil SHC Cibus™ 46	51524-HLP 51506-VDL	141498	●	●	●	●	
Mobil SHC Cibus™ 68	51524-HLP 51506-VDL	141499	●	●	●	●	
Mobil SHC Cibus™ 100	51506-VDL 51517-CLP 51524-HLP	145255	●	●	●	●	Designed to help optimize maintenance costs and unleash productivity improvements in circulation and gear box applications. Long oil life. Potential energy savings.
Mobil SHC Cibus™ 150	51517-CLP	141502	●	●	●	●	
Mobil SHC Cibus™ 220	51517-CLP	141503	●	●	●	●	
Mobil SHC Cibus™ 320	51517-CLP	141505	●	●	●	●	
Mobil SHC Cibus™ 460	51517-CLP	141501	●	●	●	●	
Mobil SHC Cibus™ 32 HT		141504	●	●	●	●	Synthetic heat transfer oil. Outstanding thermal and oxidative stability for long service life.
Mobil Glygoyle™ Series (220, 320, 460)		Varies	●				Low traction synthetic worm gear oil. Potential energy savings. Easy low temperature start-up.
Mobil Glygoyle™ Arctic SHC Series		Varies	●				Long life, fully synthetic refrigeration oil for use with ammonia as refrigerant.
Mobilgrease™ FM Series (101, 222)	KP1K-20	Varies	●	●	●	●	Multi-purpose greases (NLGI 1, 2). Excellent resistance to water wash-off. Long re-lubrication intervals.
Mobil SHC Polyrex™ Series (005, 221, 222, 462)	Varies	Varies	●	●			High temperature grease designed for tough operating conditions (up to 170°C) and moist environments.

Other Food Industry Lubricants

- Mobil SHC Cibus™ 32 HT: synthetic heat transfer fluid
- Mobil DTE™ FM (32, 46, 68) - premium mineral oils
- Mobil Synturion™ 6 and 18: synthetic mechanical seal fluid
- Mobil Gargoyle Arctic SHC™ Series: synthetic refrigeration lubricants

INDUSTRIAL LUBRICANTS

GAS ENGINE OILS

Mobil™ SHC Pegasus™ 30 is a new category of advanced technology natural gas engine oil designed to provide today's high output, low-emission four-cycle gas engines with the highest levels of protection. Mobil SHC Pegasus 30 uses a patented combination of high quality base stocks and advanced additive technology to deliver exceptional oxidation stability, nitration resistance and thermal stability. Its formulation has been carefully balanced to provide outstanding anti-wear characteristics and to control the formation of carbon and varnish deposits.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C					
MOBIL SHC PEGASUS 30	30	60	10.1	154	-54	260	6.5

Mobil™ SHC Pegasus™ 40 is a new category of advanced technology natural gas engine oil designed to provide today's high output, low-emission four-cycle gas engines with the highest levels of protection. Mobil SHC Pegasus 40 uses a patented combination of high quality base stocks and advanced additive technology to deliver exceptional oxidation stability, nitration resistance and thermal stability. Its formulation has been carefully balanced to provide outstanding anti-wear characteristics and to control the formation of carbon and varnish deposits.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C					
MOBIL SHC PEGASUS 40	40	82	13.7	150	-18	210	5.6

Mobil™ Pegasus™ 1 is a high performance synthetic gas engine oil designed to meet the highest performance requirements of the most demanding naturally aspirated and turbocharged stoichiometric and lean-burn gas engines. It is formulated from wax-free synthetic base oils and a balanced additive system to provide performance that is unattainable with conventional mineral oil-based gas engine oils. The potential benefit is an improved bottom line through improved engine and oil life, reduced maintenance costs and lower fuel costs.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C					
MOBIL PEGASUS 1	15W-40	93.8	13.0	137	-48	238	6.8

Mobil™ Pegasus™ 1107 is a high performance gas engine oil designed to provide today's high output, low-emission four-cycle gas engines with the highest levels of protection while maintaining superior performance in earlier model engines. Mobil Pegasus 1107 has extraordinary oxidation stability, nitration resistance, TBN (Total Base Number) retention and thermal stability which result in extended oil life. The formulation is balanced to provide extended oil life, outstanding anti-wear characteristics and to control the formation of carbon and varnish deposits.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C					
MOBIL PEGASUS 1107	40	113	13.1	112	-18	0.65	

This product is only available in the US.

Mobil™ Pegasus™ 1005 is a high performance gas engine oil designed to provide today's high output, low-emission four-cycle gas engines with the highest levels of protection while maintaining superior performance in earlier model engines. Mobil Pegasus 1005 uses high quality base stocks and advanced additive technology to deliver exceptional oxidation stability, nitration resistance and thermal stability.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C					
MOBIL PEGASUS 1005	40	121	13.4	106	-25	265	5.4

Mobil™ Pegasus™ 805 Ultra is a high performance gas engine oil engineered to meet the rigorous demands of today's high output four-cycle engines designed to reduce emissions and improve oil consumption. It meets a wide range of OEM requirements making it a great choice where high-speed four-cycle engines from various OEMs are used.

Mobil Pegasus 805 Ultra is designed to provide very good protection against piston scuffing, scoring and ring and liner wear. It also exhibits excellent resistance to foaming, good demulsibility and high-level corrosion protection. It is formulated with low levels of zinc and phosphorus making it compatible with engines equipped with catalytic converters.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C		
MOBIL PEGASUS 805 ULTRA	40	129	13.8	104

Mobil™ Pegasus™ 505 is a natural gas engine oil formulated exclusively from specially selected base stocks of high stability. This lubricant provides the excellent performance and economy for a wide variety of engine types, service severity and fuel qualities.

SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	cSt at 40°C	cSt at 100°C					
MOBIL PEGASUS 505	40	126	13.1	97	-15	238	2.7

INDUSTRIAL LUBRICANTS

GAS ENGINE OILS

Mobil Pegasus™ Natural Gas Engine Oil Recommendation

ENGINE MANUFACTURER	FUEL	MODELS	RECOMMENDATION
Arrow Engines	CG	C66, C96, C106	Mobil GEO 10W-40, Mobil Delvac 1300 Super 15W-40, Mobil Full Synthetic high mileage 5W-30 (temperature consideration)
	CG	A-32, A-42, A-54, A-62, A-90, VRG310, VRG330	Mobil Pegasus 505 805 1005, Mobil Pegasus 1
Ajax (Cooper Cameron)	CG	2-Cycle	Mobil Pegasus Special CF, Mobil Pegasus 801
Caterpillar	CG	398/399	Mobil SHC Pegasus 30, Mobil Pegasus 805 Ultra, 1005, 505
	CG	3300, 3400, 3500, 3600, GCM	Mobil SHC Pegasus 30, Mobil Pegasus 805 Ultra, 1005, 505, Pegasus 1
	LFG	All	Mobil Pegasus 605 Ultra
Cooper Bessemer	CG	2-Cycle	Mobil Pegasus 701, 801
	CG	4-Cycle	Mobil Pegasus 805 Ultra, 1005, 505, Mobil Pegasus 1
CSI Gasjacks / Stationary Automotive Engines	CG	GM / Ford Engines	Mobil GEO 10W-40, Mobil Delvac 1300 Super 15W-40, Mobil Full Synthetic High Mileage 5W-30 (temperature consideration)
Cummins	CG	L10G and QSK19G, K19G, G19, G38, G50, G28, G855, and G14	Mobil Pegasus 805 Super, Mobil Pegasus 805 Ultra, Mobil Pegasus 1005
	CG	B, C, G5.9, G8.3, L Gas Plus, and ISL G	Mobil GEO 10W40
	CG	QSK45G, QSK60G, QSV81G, and QSV91G	Mobil Pegasus 805 Ultra, 1005, 505, Mobil Pegasus 1
Dresser Rand - Ingersoll Rand Clark	CG	Category I	Mobil Pegasus 801/30, 505/30
	CG	Category II	Mobil Pegasus 801/30, 505/30
	CG	Category III	Mobil Pegasus 805 Ultra, 505/30, 801/30,
	CG	2-Cycle	Mobil Pegasus 801, Mobil Pegasus 701,
Enterprise	CG	All	Mobil Pegasus 805 Ultra, 505, 1005, Mobil Pegasus 1
Fairbanks-Morse (MEP)	CG	2-Cycle	Mobil Pegasus 805 Ultra, 505/30, 505, 710
Jenbacher	CG	Type 6/G, H, K	Mobil Pegasus 1107
	CG	Type 6/F, J	Mobil Pegasus 705, 805, 1107
	CG	Type 6/C, E Type 4/C,E, B, D,	Mobil Pegasus 1107, 1105, 1005, 605 Ultra, 705, 805 Ultra
	CG	Type 4/A	Mobil Pegasus 1105, 1005, 605 Ultra, 705, 805 Ultra
	CG	Type 3/F	Mobil Pegasus 605 Ultra
CG	Type 2,3	Mobil Pegasus 1107, 1105, 1005, 605 Ultra, 705, 805 Ultra, 610, 710	
Nordberg (Hatch and Kirk)	CG	All	Mobil Pegasus 505
Superior (Cooper Cameron) White (Cooper Cameron)	CG	G, GT, GST, GTLA, GTLB	Mobil Pegasus 710
	CG	1700, 2400	Mobil Pegasus 805 Ultra
	LFG	G, GT, GST	Mobil Pegasus 610
	LFG	1700, 2400	Mobil Pegasus 605 Ultra
Wärtsilä	CG	All	Mobil Pegasus 1, 805 Ultra, 1005
Waukesha	CG	VHP - F2895, F3521, L5796, L7042, P9390 G, GSI, GL	Mobil Pegasus 805 Ultra, 1005, 710, 505, Mobil Pegasus 1
	CG	VHP - F3524, L5794, L7044 GSI	Mobil Pegasus 805 Ultra, 1005, 505, Mobil Pegasus 1
	CG	- L5774, L5794 LT	Mobil Pegasus 805 Ultra, 1005, Mobil Pegasus 1
	CG	VSG - F11G, GSI, GSID	Mobil Pegasus 805 Ultra, 1005, Mobil Pegasus 1
	CG	VGF - F18, H24, L36, P48 G, GL, GLD, GSID	Mobil Pegasus 805 Ultra, 1005, 505, Mobil Pegasus 1
	CG	AT 25/27, 8L, 12V, 16V, GL	Mobil Pegasus 805 Ultra, 1005, 505, Mobil Pegasus 1
	LFG	VHP, AT	Mobil Pegasus 605 Ultra, 610
	BMG	VHP, AT	Mobil Pegasus 605 Ultra
	DG	All	Mobil Pegasus 610
	Worthington (Dresser Rand)	CG	2-Cycle / 2-Cycle TC
CG		4-Cycle	Mobil Pegasus 505, 805 Ultra, 1005, Pegasus 1

INDUSTRIAL LUBRICANTS

GAS ENGINE OILS

Mobil™ Pegasus™ 610 is a high performance natural gas engine oil primarily intended for the lubrication of modern medium and high speed four-cycle engines operating on fuel that contains corrosive materials such as hydrogen sulphide or halogens (compounds containing chlorine, fluorine, etc.). These engines are generally of the lean-burn design where increased manifold pressures prevent sufficient lubricant from reaching the valve guide areas resulting in low oil consumption which can lead to accelerated valve guide and valve recession. This effect also increases the potential for wear and acid attack of upper cylinder components from the acidic materials generated during combustion. Mobil Pegasus 610 is a high TBN gas engine oil with exceptional reserve alkalinity designed to offset the negative effects of these corrosive materials on engine components. The excellent corrosion protection properties help to prevent wear in cylinders, valve areas and bearings which can result in longer engine life and lower maintenance costs. Mobil Pegasus 610 provides excellent anti-wear and anti-scuff performance assuring minimal piston scuffing, scoring and cylinder and ring wear. This oil can also be used for the lubrication of the reciprocating compressors in landfill and biomass gas applications.

Mobil™ Pegasus™ 605 Ultra 40 is a gas engine oil primarily intended for the lubrication of modern medium and high-speed four-cycle engines operating on landfill gas that contains contaminants such as hydrogen sulphide, halides or siloxane. Its formulation has been carefully balanced to provide extended oil drain intervals, control the formation of carbon and varnish deposits, with very good anti-wear and anti-scuff performance.

	SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D 92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
		cSt at 40°C	cSt at 100°C					
Mobil Pegasus 610	40	130	13.8	102	-18	264	7.3	1
Mobil Pegasus 605 ULTRA 40	40	138	15	110	-21	268	5.7	0.6

Mobil™ Pegasus™ 701 Series are premium natural gas engine oils formulated exclusively from specially selected base stocks of high stability. These lubricants provide the excellent performance and economy for a wide variety of engine types, service severity and fuel quality. Mobil Pegasus 701 and 701 SAE 30 are formulated with ashless dispersants, effective oxidation and corrosion inhibitors, and antiwear agents. They provide excellent dispersancy, and good high-temperature stability. The formulation approach is very effective for controlling carbon and ash deposits in gas engines. Port carbon cleaning intervals in two-cycle, naturally aspirated and turbocharged gas engines may be extended by using Pegasus 701 Series oils.

	SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D 92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
		cSt at 40°C	cSt at 100°C					
Mobil Pegasus 701	40	132	13.5	97	-15	249	2.2	<0.1
Mobil Pegasus 701 SAE 30*	30	85	10	97	-18	238	1.7	<0.1

*This product is only available in the US.

Mobil™ Pegasus™ 710 is a premium performance gas engine oil primarily intended for the lubrication of modern high-speed four-cycle engines where oil consumption is very low. These engines are generally of the lean-burn design where increased manifold pressures prevent sufficient lubricant from getting into the valve guide areas. This oil is also recommended for the lubrication of gas compressors. It is formulated from high quality mineral base oils and an advanced medium ash additive system designed to provide excellent protection of engine and compressor components. It exhibits a high level of chemical stability and resistance to oxidation and nitration. Pegasus 710 offers outstanding resistance to valve train wear and protection against deposit formation. These performance advantages combined with its very effective detergency and dispersancy system control the formation of ash and carbon deposits that could result in poor engine performance and detonation.

	SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
		cSt at 40°C	cSt at 100°C			
Mobil Pegasus 710	40	121	13.2	98	6.8	1.0

Mobil™ Pegasus™ 801 Series are premium performance gas engine oils intended for the lubrication of all classes of gas engines operating at low, medium and high speeds where low ash or ashless oils are recommended. They provide outstanding engine cleanliness and performance by helping to prevent the formation of carbon and ash deposits on pistons, in ring belt areas, on exhaust and intake ports, on valves and valve stems and in combustion chambers. Mobil Pegasus 801 Series also reduce the potential for port carboning of two-cycle gas engines. They minimize engine wear and protect valve faces, seats and guides of turbocharged, four-cycle engines. Both products provide exceptional protection against scuffing in demanding engine applications and also provides excellent protection against corrosion of internal engine components. Filter and oil life can be extended and the high performance capability of the Mobil Pegasus 801 Series can also help to extend the time between engine maintenance and overhaul periods.

	SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D 27	TBN mg KOH/g	Sulfated Ash, wt% ASTM D 874
		cSt at 40°C	cSt at 100°C					
Mobil Pegasus 801 SAE 30	30	85	10.0	97	-15	238	2.2	0.13
Mobil Pegasus 801	40	125	13.2	97	-15	249	2.2	0.13

*These products are only available in the US.

INDUSTRIAL LUBRICANTS

GAS ENGINE OILS

Mobil™ Pegasus™ 803 Ultra is a high-performance gas engine oil formulated exclusively from specially selected base stocks and additives of high stability. This gas engine oil is designed to provide excellent performance against wear while minimizing ash build-up and minimizing economy for engines running at lower-than-normal loads. Mobil Pegasus 803 Ultra is formulated with dispersants, effective oxidation and corrosion inhibitors, and anti-wear agents. These characteristics provide excellent dispersancy, and good high-temperature stability. It also exhibits high effectiveness in controlling carbon and ash deposits in gas engines under low load.

MOBIL PEGASUS 803 ULTRA	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Sulfated Ash, wt% ASTM D 874
	SAE Grade	cSt at 40°C	cSt at 100°C				
	40	115	13.3	108	-33	282	0.21

This product is only available in Canada.

Jenbacher™ N Oil 40 is a high performance gas engine oil formulated for current & next generation of Jenbacher natural gas engines. It has been designed as a major component of the engine, in close cooperation between INNIO Jenbacher and ExxonMobil engineers.

JENBACHER N OIL 40	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
	SAE Grade	cSt at 40°C	cSt at 100°C					
	40	114	13.2	111	-18	269	7.4	0.6

INDUSTRIAL LUBRICANTS

GEAR LUBRICANTS – OPEN GEARS

Mobil SHC Gear™ 1500, 3200 and 6800 lubricants are supreme performance heavy-duty gear oils primarily designed for open gears, all kinds of enclosed gearing as well as plain and rolling element bearings. They are designed to provide outstanding service in terms of equipment protection, oil life, and problem-free operation enabling increased customer productivity. These scientifically engineered synthetic lubricants are formulated from synthetic base fluids that have exceptional oxidation and thermal properties and excellent low temperature fluidity. The combination of a naturally high viscosity index and a unique additive system enables these products to provide outstanding performance under severe high and low temperature operating conditions. The nature of the synthetic base fluids also contributes to the products' excellent low temperature performance. They have excellent protection against gear scuffing and resistance to shock loading. The synthetic base stocks have inherently low traction properties that result in low fluid friction in the load zone of non-conforming surfaces such as gears and rolling element bearings. Reduced fluid friction produces lower operating temperatures and improved gear efficiency.

MOBIL SHC GEAR 1500	MOBIL SHC GEAR 3200	MOBIL SHC GEAR 6800	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG test, ISO 14635-1 mod., Failure Stage										
			ISO VG	cSt at 40°C	cSt at 100°C														
1500	3200	-	1500	3200	8200	113	183	365	165	180	-18	-9	-6	230	230	230	13+	13+	13+

Mobil™ Pegasus™ Special CF is a high quality SAE 15W-40 gas engine oil primarily intended for the lubrication of crankcases and power cylinders of spark-ignited two- and four-cycle gas-fueled engines. It is ideally suited for engines subjected to a wide range of ambient temperatures during startup and operation. This oil is uniquely formulated to be "Catalyst Friendly" and to meet the needs of engines with catalytic exhaust systems and stringent air emission requirements.

MOBIL PEGASUS SPECIAL CF	SAE Grade	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	TBNmg KOH/g	Sulfated Ash, wt% ASTM D 874
		cSt at 40°C	cSt at 100°C			
	15W-40	104	13.7	132	2.4	<0.1

This product is only available in the US.

Mobil SHC Gear™ 22M and 46M are supreme performance ultra high viscosity synthetic lubricants designed specifically for use in heavily loaded, low speed open gears where boundary lubrication conditions often prevail. They are formulated from synthetic base stocks, which have remarkable low-temperature fluidity, even at such high viscosity grades. These ultra high viscosity products can be pumped over relatively long distances and use standard spray application equipment. The combination of a naturally high viscosity index and a unique additive system gives the products exceptional thermal/oxidative properties and provides outstanding performance under severe high and low temperature operating conditions even with very slow moving gears. The additive formulation also provides excellent gear scuffing protection, anti-wear performance and rust and corrosion inhibition.

MOBIL SHC GEAR 22M	MOBIL SHC GEAR 46M	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
		22000	700	180	6	240
		46000	1375	180	15	240

INDUSTRIAL LUBRICANTS

GEAR LUBRICANTS – OPEN GEARS

Geargard™ HVS is an ultra-high viscosity lubricant, primarily intended for use in heavily loaded, low and medium speed open gears that may operate in boundary lubrication conditions. It is formulated with an ultra-high viscosity synthetic fluid and extreme pressure additives that provide outstanding performance under severe high and low temperature conditions. Geargard HVS is formulated to dispense very well in cold ambient temperatures as low as -10°C, while also providing excellent protection for gears operating in hot ambient conditions.

GEARGARD HVS	Kinematic Viscosity, ASTM D445		Flash Point °C, ASTM D92
	cSt at 40°C without diluent	cSt at 100°C without diluent	
	44000	1350	110

Mobiltac™ 375 NC, 325 NC and 275 NC extra high performance non-leaded, diluent-type, heavy-bodied open gear lubricants designed for a wide variety of open gear and mining applications. They contain a non-chlorinated, volatile solvent that ensures fluidity during application, even at low temperatures. Once applied, the diluent evaporates and the lubricants take on a flexible, adhesive, high-strength consistency that is maintained throughout their service life. Mobiltac 375 NC, 325 NC and 275NC adhere strongly to gear teeth and other machine elements to resist excessive throw-off, thereby providing a wear-resistant, viscous, continuous film that lubricates well under boundary conditions. Mobiltac 275 NC also contains solid phase EP/anti-wear additive for added equipment protection.

MOBILTAC 275 NC*	MOBILTAC 325 NC	MOBILTAC 375 NC	Kinematic Viscosity, ASTM D445		Flash Point °C, ASTM D92
			cSt at 40°C (Diluted)	cSt at 100°C (Undiluted)	
-	-	5000	-	-	150
-	1000	1260	-	-	110
-	-	-	-	-	135

**This product is only available in the US.*

Mobiltac™ 50M Series of premium performance open gear lubricants is designed to provide outstanding protection of heavily loaded open gears exposed to severe operating conditions. Mobiltac 50M is a semi-synthetic open gear lubricant containing high performance additives designed to provide an adhesive film and excellent load carrying capability particularly for open gears on shovels, draglines, and associated mining equipment.

MOBILTAC 50M HEAVY	MOBILTAC 50M LIGHT	MOBILTAC 50M ARTIC	Base Oil Viscosity, ASTM D445, cSt at 40°C		Flash Point °C, ASTM D92	Ventmeter, 600, psi, Lincoln VE-1
			St at 40°C	St at 100°C		
50,000	50,000	50,000	149	140	143	20°F @ <30 sec
						-15°F @ <150 sec
						-30oF @ <150 sec

These products are only available in Canada.

Mobil™ Dynagear™ Series are premium performance open gear lubricants are designed to provide outstanding protection of heavily loaded open gear sets exposed to a wide range of operating conditions. The Mobil Dynagear Series are based on lithium thickener technology, carefully chosen high performance additives and high viscosity semi-synthetic base fluids. These components synergistically provide a lubricant film that firmly adheres to lubricated surfaces. All members of the Mobil Dynagear Series are formulated solvent free and provide excellent dispensability without the use of chlorinated or hydrocarbon solvents.

The Mobil Dynagear Series' solvent free technology can help to significantly reduce run-off that can occur during lubricant application. Reduced run-off can help to establish a cohesive lubricating film quickly and enable optimization of the lubricant dispensing systems. A properly set-up dispensing system helps produce less waste while delivering the optimum lubricant film required to protect the gear set. The Mobil Dynagear Series can help reduce handling and waste disposal costs and the impact of fugitive emissions on the conditions associated with the use of hydrocarbon solvents. The Mobil Dynagear Series does not contain carbon black or asphalt. Additionally, the Mobil Dynagear Series does not form hardened tar like materials in the gear tooth root, does not flake off at low temperatures, can help keep spray injectors from plugging and has excellent low temperature pumpability. The Mobil Dynagear Series premium performance technology enables simpler and potentially less expensive clean-up of the gear teeth and guard, helping to reduce the amount of maintenance and inspection work necessary on critical open gear systems.

MOBIL DYNAGEAR 600 SL	MOBIL DYNAGEAR 800 EXTRA	MOBIL DYNAGEAR 2000	Base Oil Viscosity, ASTM D445		Flash Point °C, ASTM D92
			cSt at 40°C	cSt at 100°C	
620	680	2000	60	120	204
					158
					243

To learn more about the application of these products, go to **Grease section - Commercial & industrial Greases.....57**

Mobiltac™ Double Letter product is a high performance, non-diluent type, heavy-bodied products intended for the lubrication of open gears over a wide range of weather conditions and machine requirements. It incorporates extreme pressure additives for the protection of gear teeth and metal surfaces subject to extremely heavy loads. It forms a cohesive and adhesive lubricating film that resists wear, water wash and excessive "throw off". It lubricates properly under boundary conditions.

MOBILTAC MM	Kinematic Viscosity, ASTM D445		Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C	
	3900	126	182

This product is only available in the US.

INDUSTRIAL LUBRICANTS

GEAR OILS – ENCLOSED GEARS

Mobil SHC Gear™ 320 WT advanced wind turbine gear lubricant is a fully synthetic industrial gear lubricant designed to provide optimum equipment protection for wind turbine gearboxes and extended lubricant life even under extreme conditions. Mobil SHC Gear 320 WT offers a high level of resistance against micropitting fatigue and outstanding rust and corrosion protection. Mobil SHC Gear 320 WT advanced wind turbine gear lubricant has been approved by major Original Equipment Manufacturers (OEM) for use in their equipment and meets the main industry requirements, including the cleanliness level required by IEC 61400-4 (Design requirements for wind turbine gearboxes).

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL SHC GEAR 320 WT	320	343	44.7	189	-45	256

Mobilgear™ SHC™ XMP 320 high performance, synthetic industrial gear oil is designed to provide optimum equipment protection and oil life even under extreme conditions. Mobil's polyalphaolefin (PAO) technology has been selected for its exceptional oxidation resistance and thermal properties, naturally high viscosity index, excellent low temperature fluidity and absence of undesirable compounds that are often found in mineral oils. The high viscosity index and low traction coefficient of this oil combines to help provide significant reduction in power consumption in many gear drives. Mobilgear SHC XMP 320 lubricant contains an advanced and carefully blended proprietary additive system designed to provide excellent protection against conventional wear modes such as scuffing and provide a high level of resistance against micropitting fatigue. In addition, compared to conventional gear oil chemistries, it offers the potential for improved lubrication of gearbox rolling element bearings. Mobilgear SHC XMP 320 product offers outstanding rust and corrosion protection in applications where salt water and acidic water protection are required. This product provides outstanding filter life even when moderately wet and have excellent compatibility with ferrous and non-ferrous metals even at elevated temperatures.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBILGEAR SHC XMP 320	320	335	38.3	164	-38	242

Mobil SHC Gear™ Series is a line of exceptional performance, synthetic industrial gear oils designed to provide outstanding protection of gears and bearings, extended oil life even under extreme conditions, helping to enable problem-free operation of equipment and increased customer productivity. These scientifically engineered synthetic lubricants are formulated from synthetic base fluids that have exceptional oxidation and thermal properties and excellent low temperature fluidity.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG scuffing, A/8.3/90, Fail Stage	FZG Micropitting, FVA 54
	ISO VG	cSt at 40°C	cSt at 100°C					
MOBIL SHC GEAR 150	150	150	22.2	176	-54	233	14	10
MOBIL SHC GEAR 220	220	220	30.4	180	-45	233	14	10
MOBIL SHC GEAR 320	320	320	40.6	181	-48	233	14	10
MOBIL SHC GEAR 460	460	460	54.1	184	-48	234	14	10
MOBIL SHC GEAR 680	680	680	75.5	192	-42	234	14	10
MOBIL SHC GEAR 1000	1000	1000	99.4	192	-33	234	14	10

Mobil™ SHC™ 600 Series.....11

Mobilgear™ 600 XP Series are extra high performance gear oils having outstanding extreme pressure characteristics and load-carrying properties, intended for use in all types of enclosed gear drives with circulation or splash lubrication systems. Mobilgear 600 XP Series are designed to stay ahead of the changing needs of gearbox technology. Gearbox technology design trends are towards smaller units with similar power throughput. This increase in power density places increased demands on gear oils. Mobilgear 600 XP Series oils are formulated to meet the stress by providing extra protection for gears, bearings and seals.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG Scuffing, A/8.3/90, ISO 14635-1	FZG Micropitting, Fail Stage, Rating, FVA 54
	ISO VG	cSt at 40°C	cSt at 100°C					
MOBILGEAR 600 XP 68	68	8.8	101	-27	230	12+	-	
MOBILGEAR 600 XP 100	100	11.2	97	-24	230	12+	10	
MOBILGEAR 600 XP 150	150	14.7	97	-24	230	12+	10	
MOBILGEAR 600 XP 220	220	19.0	97	-24	240	12+	10	
MOBILGEAR 600 XP 320	320	24.1	97	-24	240	12+	10	
MOBILGEAR 600 XP 460	460	30.6	96	-15	240	12+	10	
MOBILGEAR 600 XP 680	680	39.2	90	-9	285	12+	10	

Spartan™ EP Series are extra high performance gear oils having outstanding extreme pressure characteristics and load-carrying properties, intended for use in all types of enclosed gear drives with circulation or splash lubrication systems.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG Scuffing, A/8.3/90, Fail Stage, Rating, DIN 51354
	ISO VG	cSt at 40°C	cSt at 100°C				
SPARTAN EP 150	150	150	14.7	97	-24	230	12+
SPARTAN EP 220	220	220	19.0	97	-24	240	12+
SPARTAN EP 320	320	320	24.1	97	-24	240	12+
SPARTAN EP 460	460	460	30.6	96	-15	240	12+

Mobil SHC Gear™ Hi-Shock 150 is a synthetic gear oil specifically designed and uniquely formulated for high shock load applications such as cycloidal drives. Mobil SHC Gear Hi-Shock 150 is the first and only synthetic oil approved by Sumitomo Drive Technologies.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
MOBIL SHC GEAR HI-SHOCK 150	150	150	16.3	115	-36	240

logear™ EP 100 is an extreme-pressure gear oil that is specially designed for oil field pump jack gear drives. It is specifically formulated to operate at both low and high ambient temperatures to give year round performance capabilities. It is also well suited for other low-temperature gear applications, where excellent low temperature performance is required.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	cSt at 100°C			
LOGEAR EP 100	100	99.5	14.96	157	-40	170

INDUSTRIAL LUBRICANTS

GEAR OILS – ENCLOSED GEARS

Mobil™ Glygoyle™ Series lubricants are superior performance gear, bearing and compressor oils designed to provide outstanding benefits in terms of efficiency, long oil life, and equipment protection. These fully synthetic, polyalkylene glycol (PAG) lubricants were developed for use under operating conditions beyond the capabilities of other synthetic lubricants and mineral oils. Their low pour points ensure excellent low-temperature fluidity. The ISO 150 to 1000 grades are NSF H1 registered lubricants and also comply with Title 21 CFR 178.3570 by the Food and Drug Administration (USA) for lubricants with incidental food contact.

	Kinematic Viscosity, ASTM D445			V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG test, ISO, Fail Load Stage
	ISO VG	cSt at 40°C	cSt at 100°C				
MOBIL GLYGOYLE 68	68	68	11.8	170	-30	265	10
MOBIL GLYGOYLE 100	100	100	17.3	190	-30	265	12+
MOBIL GLYGOYLE 150*	150	150	26.1	210	-33	265	12+
MOBIL GLYGOYLE 220	220	220	38.1	225	-33	265	12+
MOBIL GLYGOYLE 320	320	320	55.2	240	-33	265	12+
MOBIL GLYGOYLE 460	460	460	77.2	250	-33	265	12+
MOBIL GLYGOYLE 680	680	680	112	265	-33	265	12+
MOBIL GLYGOYLE 1000*	1000	1000	165	285	-33	260	12+

*This product is only available in the US.

Mobil SHC Gear™ 1500, 3200 and 6800.....20
Mobil™ Cylinder Oils.....27

INDUSTRIAL LUBRICANTS

HEAT TRANSFER FLUIDS

Mobil™ SHC Cibus™ 32HT.....15
Mobil™ Gargoyle Arctic SHC™ 224.....30

Mobiltherm™ 43 is a formulated paraffinic type fluid designed for closed heat transfer systems operating at higher bulk temperatures including demanding open systems. It has a high specific heat and thermal conductivity to provide more rapid heating and greater flexibility in a system. Suitable up to 600 F° (315.5° C) in closed systems.

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBILTHERM 43	30.6	5.1	-12	198

Mobiltherm™ 603 heat transfer oil is a high performance product intended for use in closed indirect heating installations. It is recommended for use in cold-oil sealed, indirect heating and cooling systems in all kinds of industrial processes. It is formulated from highly refined base stocks that are resistant to thermal cracking and chemical oxidation. Mobiltherm 603 is very thermally stable and is capable of an extremely long service life without deposit formation or viscosity increase. Mobiltherm 603 heat transfer oils have good heat transfer efficiency and their viscosities are such that they can be pumped readily at both start-up and operating temperatures. It demonstrate specific heat and thermal conductivities that provide more rapid heat dissipation. The flash points of this oil will not decrease significantly in service because of its resistance to thermal cracking at the operating temperatures for which it is recommended. Suitable for use in closed systems, up to 285° C (545° F); and open systems, up to 150° C (302° F).

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBILTHERM 603	20.2	4.2	-15	194

Teresstic™ Series.....11

INDUSTRIAL LUBRICANTS

HYDRAULIC FLUIDS

Mobil[®] SHC[™] 500 Series oils are exceptional performance hydraulic oils formulated from synthesised, wax-free hydrocarbon base fluids combined with a carefully engineered super-stabilised additive system. They are exceptionally high quality, wide-temperature, shear-stable hydraulic oils with controlled low-temperature pumpability properties and maximised anti-wear protection for high-pressure vane, piston and gear pumps. The products exhibit very high viscosity indexes contributing to their excellent low and high temperature performance making them an excellent choice for equipment that is subjected to a wide range of start-up and operating temperatures. The Mobil SHC 500 Series oils exhibit outstanding shear stability allowing their use in high-pressure, high-temperature operating conditions for extended periods of time without the loss of critical lubrication characteristics. They were developed in conjunction with the major OEMs to meet the stringent requirements of severe hydraulic systems using high pressure, high output pumps as well as handling the critical requirements of other hydraulic system components such as close clearance servo-valves and the high accuracy numerically controlled (NC) machine tools. The technology used allows up to 6 percent increase in hydraulic pump efficiency compared with Mobil DTE 20 Series when tested in standard hydraulic applications.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL SHC 524	32	32	6.4	144	-56	234
MOBIL SHC 525	46	46	8.54	154	-54	238
MOBIL SHC 526	68	68	11.52	158	-53	240
MOBIL SHC 527	100	100	15.94	160	-52	243

Mobil[®] Aero HF Series are formulated for aircraft systems where use of hydrocarbon-based hydraulic fluids is required. They are low viscosity products, high VI (viscosity index) fluid with excellent low temperature properties, good anti-wear performance, and good chemical stability. Mobil Aero HFA and HF are composed of mineral base oil stock and contain shear-stable VI improvers.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL AERO HF	14.0	5.2	370	-62	107	
MOBIL AERO HFA	14.0	5.2	370	-64	107	

Mobil[®] DTE[™] 10 Excel[™] Series are high performance anti-wear hydraulic oils specifically designed to meet the needs of modern, high pressure, industrial and mobile equipment hydraulic systems. The products demonstrate outstanding oxidation and thermal stability allowing for long oil life and minimized deposit formation in severe hydraulic systems using high pressure, high output pumps.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Brooksfield Viscosity, ASTM D 2983			Dielectric Strength, kV, ASTM D877
		cSt at 40°C	cSt at 100°C				cP at -20°C	cP at -30°C	cP at -40°C	
MOBIL DTE 10 EXCEL 15	15	15.0	3.9	164	-57	210	-	-	2490	39.3
MOBIL DTE 10 EXCEL 22	22	22.0	5.0	164	-54	215	-	-	1660	38.3
MOBIL DTE 10 EXCEL 32	32	31.5	6.5	164	-48	225	1070	3390	20000	39.3
MOBIL DTE 10 EXCEL 46	46	45.7	8.4	163	-45	230	1900	6790	125000	38.2
MOBIL DTE 10 EXCEL 68	68	66.9	10.9	155	-42	260	4050	16780	-	39.2
MOBIL DTE 10 EXCEL 100	100	97.0	13.0	132	-40	260	10360	71400	-	37.2
MOBIL DTE 10 EXCEL 150	150	148.0	17.2	121	-38	270	32600	445000	-	37.4

Mobil[®] DTE[™] 20 Ultra Series oils are high performance anti-wear hydraulic oils with extended oil life capabilities and have demonstrated up to 2 times longer oil drain intervals versus similar competitive oils (*).

(* with a viscosity index around 100 and a zinc-based anti-wear system - meeting at least ISO 11158 (L-HM) and/or DIN 51524-2 (HLP type) requirements.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL DTE 21 ULTRA	10	10.7	2.8	106	-45	174
MOBIL DTE 24 ULTRA	32	33.4	5.8	115	-36	231
MOBIL DTE 25 ULTRA	46	46.2	7.1	110	-33	238
MOBIL DTE 26 ULTRA	68	68.6	8.9	104	-30	252

Univis[™] HVI Series is a line of premium performance anti-wear hydraulic oils characterised by their unusually high viscosity indexes. They are engineered to maintain close viscosity control over wide temperature range applications. Because of their resistance to viscosity change, Univis HVI oils are recommended for hydraulic systems that are subject to wide temperature variations. Many of these systems are sensitive to changes in viscosity of the hydraulic oil, since they depend on uniform viscosity for hydraulic accuracy. They exhibit optimum flow characteristics at sub-zero temperatures and the oils are resistant to shearing and viscosity loss so that system efficiency is maintained and internal pump leakage is minimised at high operating temperatures and pressures. These high quality hydraulic oils also provide very good anti-wear protection for high-pressure vane, piston and gear pumps. The Univis HVI oils are designed with excellent oxidation stability reducing deposit formation and improving pump and valve performance. They were developed in conjunction with the major OEM's to meet the stringent requirements of severe hydraulic systems using high pressure, high output pumps as well as handling the critical requirements of other hydraulic system components.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
UNIVIS HVI 13	13.5	5.3	404	-60	>100	
UNIVIS HVI 26	25.8	9.3	376	-60	>100	

Univis[™] Ultra and Extra are premium all season, multi-grade hydraulic fluids, formulated to provide excellent performance over a very wide operating temperature range. Univis Ultra and Extra combines the high temperature viscosity characteristics of all season ISO VG 46 hydraulic oils with the outstanding low temperature fluidity of ISO VG 22. Univis[™] Extra takes All Season performance to a new level of quality and performance, by offering the operating range of a Multi-Grade ISO 22/32 lubricant in a shear stable, high performance hydraulic oil; the resulting very wide operating temperature range makes Univis Ultra the ideal choice for severe service in stationary and mobile hydraulic equipment in many applications including; oil field operations, mining, forestry, logging and construction.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
UNIVIS EXTRA*	32.8	7.6	213	-50	170	
UNIVIS ULTRA	43.13	10.44	242	-54	196	

*This product is only available in Canada.

Please refer to exxonmobil.com/en/pds for latest product information. Imperial Oil licensee

INDUSTRIAL LUBRICANTS

HYDRAULIC FLUIDS

Univis[™] N Series oils are premium high performance anti-wear hydraulic oils designed to satisfy a wide range of hydraulic equipment requirements. The products exhibit high viscosity indexes contributing to their excellent low and high temperature properties making them an excellent choice for equipment that is subjected to a wide range of start-up and operating temperatures. They are designed to work with systems operating under moderate conditions where high levels of anti-wear protection are needed.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
UNIVIS N 22	22	21	4.79	156	-60	185
UNIVIS N 32	32	32	6.39	151	-48	208
UNIVIS N 46	46	46	8.19	152	-48	216
UNIVIS N 68	68	68	11	151	-42	222

Nuto[™] H Series oils are good quality anti-wear hydraulic oils intended for industrial and mobile service applications, subjected to moderate operating conditions and requiring anti-wear lubricants.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
NUTO H 32	32	31.4	5.3	98	-24	212
NUTO H 46	46	44.0	6.6	98	-24	226
NUTO H 68	68	63.3	8.3	98	-18	234
NUTO H 100	100	96.0	11.0	98	-18	242

Humble[™] Hydraulic H Series oils are good quality anti-wear hydraulic oils intended for industrial and mobile service applications where anti-wear lubricants are required. They are formulated to deliver good performance in a range of hydraulic components used in systems subjected to moderate operating conditions.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
HUMBLE HYDRAULIC H 22	22	22.0	4.3	101	-36	202
HUMBLE HYDRAULIC H 32	32	32.0	5.4	102	-33	206
HUMBLE HYDRAULIC H 46	46	46.0	6.7	100	-30	218
HUMBLE HYDRAULIC H 68	68	68.0	8.6	99	-27	222

Mobil SHC Cibus[™] Series.....15

INDUSTRIAL LUBRICANTS

HYDRAULIC FLUIDS – FOOD INDUSTRY

Mobil SHC Cibus[™] Series.....15

Mobil[™] DTE[™] FM Series.....15

INDUSTRIAL LUBRICANTS

HYDRAULIC FLUIDS – LESS FLAMMABLE

QUINTOLUBRIC[®] 888 46 was designed to replace anti-wear, mineral oil-based hydraulic fluids used in applications where fire hazards exist.

	Kinematic Viscosity, ASTM D445, cSt at 40°C		V.I. ASTM D 2270	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C		
QUINTOLUBRIC 888 46	47.5	190	-	<-30

Mobil[™] Nyvac[™] FR 200D is an extra high performance water-glycol type fire-resistant hydraulic fluid. It is formulated with diethylene glycol as the main glycol component. The product does not contain ethylene glycol. Mobil Nyvac FR 200D provides excellent protection against rust and against vapour phase corrosion. In hydraulic pump tests, it has shown a high level of antiwear performance. A high viscosity index makes Mobil Nyvac FR 200D effective over a wide range of operating temperatures. Its foam resistance, low temperature flow and storage stability are also excellent.

	Kinematic Viscosity, ASTM D445, cSt at 40°C		V.I. ASTM D 2270	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C		
MOBIL NYVAC FR 200D	41.5	175	-	-30

INDUSTRIAL LUBRICANTS

METALWORKING FLUIDS – AQUEOUS SOLUBLE

Mobilcut[™] is the trademark for Mobil Industrial lubricants line of high performance water miscible metal removal fluids. Formulated with leading edge base oils, additives, and emulsifiers, Mobilcut of non-chlorinated product provides dependable performance in a wide array of metal removal processes. The product is designed to work in a variety of hard and soft water qualities and offers low foam potential and long-term corrosion protection for machine and components.

Low maintenance and inherently stable, Mobilcut product is designed for the modern machine shop where long service life, excellent machining performance and health and environmental concerns are important factors for increased productivity. This product is supplied in concentrated form and require mixing with water at the point of use. Mobilcut[™] 100 is a conventional milky soluble oil that readily mixes with different waters to form stable emulsions.

	Viscosity, cSt at 40°C	pH @ 10% Emulsion	Spec. Gravity @15.6 °C

This product is only available in the US.

Please refer to exxonmobil.com/en/pds for latest product information. Imperial Oil licensee

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INDUSTRIAL LUBRICANTS

METALWORKING FLUIDS – NEAT

Mobilmet™ 110 is a light viscosity metalworking fluid, designed for honing operations and high speed grinding. It has been formulated to provide the machined part with a smooth surface finish and polish. The formula has been designed to be chlorine free.

MOBILMET 110	Kinematic Viscosity, ASTM D445		Flash Point °C, ASTM D 92
	cSt at 40°C	cSt at 100°C	
	10	3.0	156

Mobilmet™ 420 Series products are high-performance multi-purpose cutting oils. They are chlorine-free, non-staining and non-corrosive. They are designed for light to moderate duty cutting operations and they are also suitable as machine tool lubricants and for use in light duty hydraulic systems. They are formulated from high quality base oils and select additives to provide effective machining performance in a wide variety of operations of both ferrous and non-ferrous metals. The oils are light-colored and transparent so that the work area can be clearly seen at all times. The Mobilmet 420s are formulated to prevent the formation of oil mist in the vicinity of the machine tool.

MOBILMET 423	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBILMET 423	15	3.5	-15	182
MOBILMET 424*	23	-	-15	200
MOBILMET 426	32	5.7	-15	210
MOBILMET 427	46	6.9	-12	212

* This product is only available in the US.

Mobilmet™ 447 fluid is a high performance, multi-service, non-corrosive straight cutting fluids. It is designed for moderate to heavy duty cutting operations. It is also suitable for machine tool lubrication and use as hydraulic fluids in specific applications. It is formulated from high quality base oils and chlorine-free additives to provide effective machine performance in a wide variety of moderate to severe operations. It is non-staining to both ferrous and non-ferrous metals during machining. Mobilmet 447 fluid is formulated to prevent the formation of oil mist in the vicinity of the machine tool, thus contributing to a safer and more pleasant working conditions.

MOBILMET 447	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
	45.9	7.4	-33	220

* This product is only available in the US.

Mobilmet™ 760 Series are extra high performance neat cutting oils. They are chlorine-free and are intended for severe cutting operations especially on difficult to machine steels. Mobilmet 760 Series oils are not recommended for use with copper and it's alloys due to its aggressiveness towards these softer yellow metals. In comparison with other leading premium cutting oils, Mobilmet 760 Series oils have demonstrated superior surface finish, extended tool life and control of built-up edge. Their light colour enables the work area to be seen during machining operations. Closer tolerances are consistently achieved. The oils are formulated to prevent the formation of oil mist in the vicinity of the machine tool, thus contributing to a safer and more pleasant working conditions.

MOBILMET 762*	Kinematic Viscosity, ASTM D445		Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C	
MOBILMET 762*	10	3.0	160
MOBILMET 763	18	4.0	180
MOBILMET 766	36	6.0	205

* This product is only available in the US.

Mobilgrind™ Series of products are non-staining mineral oils intended for conventional and high speed grinding and honing applications across a wide range of materials and operations. The high quality base oils and select additive systems offer clear, low misting and low odor lubrication. Mobilgrind products are designed to prevent staining of non ferrous alloys and copper tubing that are often found in grinding oil circulation systems. Mobilgrind oils separate readily from grinding swarf and components which helps to reduce drag off and waste generation. The products are readily filterable to help increase surface finish accuracy. The Mobilgrind series is not formulated with any added zinc, chlorine or other materials that may require special disposal procedures.

MOBILGRIND 13*	Kinematic Viscosity, ASTM D445		Flash Point, COC °C, ASTM D 92
	cSt at 40°C	cSt at 100°C	
MOBILGRIND 13*	4	-	120
MOBILGRIND 24	7	2.5	130

* This product is only available in the US.

INDUSTRIAL LUBRICANTS

MIST OILS

Mobil™ DTE™ 10 Excel™ Series.....24

Mobilgear™ MS Series are extra high performance oils designed for the oil-fog or mist-lubrication of machine components such as slideways, bearings, gears, chains etc. They are formulated from high quality, solvent refined base stocks and a unique additive system designed for optimum reclassifying properties. They have a high resistance to oxidation and good extreme pressure and anti-wear properties. The products have enhanced surface wetting capabilities and they reclassify (or agglomerate) readily from a mist to a liquid when the mist is subjected to extreme turbulence or is impinged onto a surface at high velocity. This allows a lubricating film to form on bearings and gears and prevents stray mist from escaping through narrow apertures into the atmosphere.

MOBILGEAR MS 32	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1
	ISO VG	cSt at 40°C				
MOBILGEAR MS 32	32	5.5	110	-12	210	12+
MOBILGEAR MS 100	100	11.2	95	-12	234	12+
MOBILGEAR MS 320	320	25	100	-9	230	12+
MOBILGEAR MS 460	460	31.5	100	-6	238	12+

INDUSTRIAL LUBRICANTS

OTHER INDUSTRIAL OILS

Mobil™ Synthetic Oven Lube 1090 is a supreme performance synthetic high temperature lubricant designed specifically for lubrication of hot conveyor chains in drying ovens and similar severe applications. This product is formulated using a carefully balanced blend of high-molecular-weight synthetic hydrocarbons and a synthetic ester base fluid plus very effective anti-wear additives. It does not contain silicone. Compared to mineral oil and conventional chain lubricants, Mobil Synthetic Oven Lube 1090 reduces carbon build-up and extends cleaning intervals.

MOBIL SYNTHETIC OVEN LUBE 1090	Kinematic Viscosity, ASTM D445			
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270
	220	210	22	126

Socony™ Oven Conveyor Lubricant is a high performance product designed specifically for the lubrication of oven conveyor chains at temperatures up to 200 degrees celsius. It is formulated from a low viscosity oil and colloidal graphite. The oil acts as a carrier for the graphite and can penetrate between the moving parts. The oil is sufficiently volatile at the working temperature to evaporate without leaving residues that might cause sticking.

SOCONY OVEN CONVEYER	Kinematic Viscosity, ASTM D445		Flash Point °C, ASTM D 92
	cSt at 40°C	cSt at 100°C	
	13.3	3.7	265

This product is only available in the US.

Mobil™ Sawguide Oil Series are specifically formulated to lubricate the thin saw blades of modern gang saws and edgers.

MOBIL SAWGUIDE OIL 68	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270
	ISO VG	cSt at 40°C	
MOBIL SAWGUIDE OIL 68	68	6.8	9.6
MOBIL SAWGUIDE OIL 100	100	10.0	11.8
MOBIL SAWGUIDE OIL 150	150	15.0	16.2

Mobil™ Cylinder Oils Series are high performance high viscosity oils designed for use in enclosed worm gears operating at moderate to high speeds and temperatures, and where heavy loads, slow speeds or high temperatures demand high viscosity oils. They are also intended for use in steam engine cylinder applications. They protect against rust and corrosion and provide good film strength and excellent lubricity and they are resistant to water washout.

MOBIL 600W CYLINDER OIL*	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C			
MOBIL 600W CYLINDER OIL*	-	375	28.0	95	-9
MOBIL 600W SUPER OIL	460	460	30.5	95	-6
CYLINDER OIL					
MOBIL EXTRA HECLA SUPER CYLINDER	680	680	35.8	85	0
MOBIL EXTRA HECLA SUPER CYLINDER OIL MINERAL**	1000	1000	42.0	80	3

* This product is only available in Canada.

** This product is only available in the US.

INDUSTRIAL LUBRICANTS

OTHER INDUSTRIAL OILS

Mobil™ Chain Oil series has been engineered to provide excellent lubrication for the chain and bar on industrial and residential use chain saws. Chain Oil helps to extend bar and chain life by providing a tacky stay-in-place film of oil that lubricates, cleans and cools the moving parts.

Chain Oils can also be used in industrial applications where tacky anti-wear oil is preferred. This includes chain drives and plain bearings.

	Kinematic Viscosity, ASTM D445 cSt at 40°C	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
MOBIL CHAIN OIL LIGHT	40	-33	180
MOBIL CHAIN OIL HEAVY	150	-20	190

Faxam™ 32 is paraffinic process oil that can be used in a wide variety of industrial and process oil applications. Faxam 32 can be used as a lubricant in non-critical applications, where oil operating conditions are moderate and there are no requirements for anti-wear or extreme pressure additives. As process oils, their physical characteristics make them suitable for use as a diluent or carrier oil in the manufacture of products such as lubricating oil additives, paper defoamants, seals, carbon paper, and other chemical formulations. Faxam 32 can be used as a flushing oil for cleaning lubrication systems.

	ISO VG	Kinematic Viscosity, ASTM D445 cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
FAXAM 32	32	32	5.36	100	-12	210

Mobil™ Solvancer is an oil-soluble cleaner blended from Group V base stock, and is compatible with most lubricants formulated with API Group I – Group IV base stocks. A concentration of 3-5% of Mobil Solvancer in the system oil is typically recommended. It can be added to in-service oil without adverse impact to performance, unlike water based chemical cleaners or some aggressive oil soluble cleaners. Use of Mobil Solvancer typically does not require a secondary displacement flush. It is recommended for use during 1) oil conversions; 2) to alleviate operational issues due to varnish, such as elevated bearing temperatures or sticking valves; or 3) to support oil life extension. Mobil Solvancer is a solubilizing agent that quickly dissolves deposits and varnish to help maintain cleanliness of turbine bearings, seals and hydraulic systems. When cooled, Mobil Solvancer maintains residual deposits keeping them in solution to avoid re-adhesion, transfer of deposits, filter plugging and oil line flow blockage events. It can be used with seals, paints and other coatings commonly used in industrial equipment.

	Viscosity, ASTM D 445, cSt at 40°C	Flash Point °C, ASTM D92
MOBIL SOLVANCER	51	422

Mobil™ System Cleaner is an oil-soluble, solvent-free cleaner that contains emulsifiers, dispersants, and rust inhibitors. It is safe for use with all ferrous and non-ferrous metals used in industrial equipment. A 5% concentration of Mobil System Cleaner in the system oil is typically recommended. The product is compatible with common seals up to 20% maximum concentration in the oil. Because of the viscosity and high flash point of Mobil System Cleaner, equipment can be operated normally during the cleaning process.

	Kinematic Viscosity, ASTM D445, cSt at 40°C	Flash Point, °C, ASTM D 92
MOBIL SYSTEM CLEANER	55	138

Mobil™ Synturion™ Series are premium-quality, synthetic-base fluids specially formulated to meet the demanding lubrication and cooling requirements of mechanical seals and to help maximize seal life. The inherent properties of the polyalphaolefin synthetic base oil, enhanced by a proprietary additive package, are ideally suited to the special requirements of mechanical seal operation.

	Kinematic Viscosity, ASTM D445, cSt at 40°C	Pour Point °C, ASTM D 97	Flash Point, °C, ASTM D 92	ASTM Color, ASTM D1500	Spec. Gravity at 15 °C
MOBIL SYNTURION 6	5.2	-63	168	1	0.799
MOBIL SYNTURION 18	18	-66.1	218	L0.5	0.818

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INDUSTRIAL LUBRICANTS

PAPER MACHINE OILS

Mobil™ SHC™ PM Series products are superior performance synthetic lubricants specifically designed for the most demanding industrial paper machine circulating systems. The Mobil SHC PM Series oils are formulated to provide outstanding protection of gears and bearings operating under the most severe conditions. They have very low pour points and a naturally high viscosity index (VI) which helps ensure good low temperature start-up while maintaining excellent viscosity characteristics at very high temperatures. The fluids are very shear stable and maintain viscosity control even when subjected to severe mechanical shear in heavily loaded bearings and gears. Their low traction coefficient and high viscosity index can help result in lower energy consumption and reduced component operating temperatures.

	Kinematic Viscosity, ASTM D445					
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
MOBIL SHC PM 220	220	225	25.6	127	-36	220
MOBIL SHC PM 320	320	325	34.7	130	-33	220

Mobil™ DTE™ PM Excel Series is a multi-functional paper machine oil for use in wet end, dry end, press sections and calender circulation oil systems.

	Kinematic Viscosity, ASTM D445					
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
MOBIL DTE PM EXCEL 150	150	145	14.5	96	-18	264
MOBIL DTE PM EXCEL 220	220	214	18.7	97	-15	278

INDUSTRIAL LUBRICANTS

QUENCH OILS

Thermrex™ Series is a family of three quench oils for the heat treatment of steel and alloy steels. They are comprised of selected solvent-refined base stocks and additives to provide optimum demulsibility and chemical and thermal stability. The use of such ingredients results in quench oils that provide uniform steel hardness, long batch life, resistance to sludge formation, and minimum deformation.

	Kinematic Viscosity, ASTM D445			Max. Cooling Rate, ISO 9950, °C/SecMax		Temperature Max Cooling Rate °C
	cSt at 40°C	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	ISO 9950, °C/SecMax	Temperature Max Cooling Rate °C	
THERMREX D-10	20.2	-18	194	54.4	513	
THERMREX R-21	21.0	-12	172	64.6	587	
THERMREX V-32	15.3	-3	176	72.2	609	

These products are only available in the US.

Mobil™ DTE™ PM Series products are high-quality, high-performance lubricants specifically designed for demanding industrial paper machine circulating systems. They are engineered to provide exceptional lubrication qualities while protecting system components from rust and corrosion. This is particularly important in the wet-end where water and chemical contaminants can enter the lubrication system. They exhibit good viscosity characteristics allowing reduced start-up to production times while maintaining excellent viscosity characteristics at high temperatures. The Mobil DTE PM Series oils provide excellent resistance to oxidation and thermal degradation, exceptional protection against rust and corrosion, and a high level of anti-wear performance.

	Kinematic Viscosity, ASTM D445					
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
MOBIL DTE PM 100	100	100	11.4	95	-6	240
MOBIL DTE PM 150	150	150	14.7	95	-6	250
MOBIL DTE PM 220	220	220	19	95	-6	260
MOBIL DTE PM 320	320	320	25.4	95	-6	250

Fenso™ Series products were developed to provide excellent long life performance in quenching operations. These products are dual-purpose oils designed for both conventional quenching and marquenching. The oil has exceptional oxidation stability helping extend oil life and reduce residue on parts and is readily removed from quenched parts with a mild alkali wash.

	Kinematic Viscosity, ASTM D445, cSt at 40°C	Flash Point °C, ASTM D92
FENSO 51	48.4	200
FENSO 150*	25.1	205

**This product is only available in Canada.*

INDUSTRIAL LUBRICANTS

REFRIGERATION OILS

Mobil™ Gargoyle Arctic SHC™ 200 Series are fully synthetic, superior performance lubricants, specifically designed for use in refrigeration compressors and heat pumps. They are formulated from wax-free, synthesised hydrocarbon polyalphaolefin (PAO) fluids, which have outstanding resistance to thermal/oxidative degradation. With their naturally high shear stable viscosity indexes and low temperature fluidity, they are able to perform in severe service conditions that are beyond the capabilities of many conventional mineral oils. Mobil Gargoyle Arctic SHC Series are NSF H1 and Mobil Gargoyle Arctic SHC 224 is HT1 registered (Heat Transfer).

	Kinematic Viscosity, ASTM D445				Flash Point °C, ASTM D92	Spec. Gravity at 20° C, ASTM D 1298
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270		
MOBIL GARGOYLE ARCTIC SHC 224*	32	29.0	5.6	132	<-54	0.82
MOBIL GARGOYLE ARCTIC SHC 226	68	68.0	10.4	145	-45	0.83
MOBIL GARGOYLE ARCTIC SHC 226E*	68	69.0	10.1	136	-45	0.83
MOBIL GARGOYLE ARCTIC SHC 230	220	220	25.0	149	-39	0.85
MOBIL GARGOYLE ARCTIC SHC 234*	-	399	40.0	150	-39	0.85

**These products are only available in the US.*

Mobil™ Gargoyle™ Arctic Oil C Heavy, 155 and 300 products are high performance naphthenic mineral oils primarily intended for use in refrigeration compressors. They have low pour points and excellent fluidity at very low temperatures by virtue of being almost wax-free. Consequently, use of these Mobil Gargoyle Arctic oils helps to ensure that evaporator tubes are kept clean to improve heat transfer and to reduce downtime for maintenance. They have good chemical stability and are suitable both for cylinder and bearing lubrication.

	Kinematic Viscosity, ASTM D445			Flash Point °C, ASTM D92
	ISO VG	cSt at 40°C	Pour Point °C, ASTM D 97	
MOBIL GARGOYLE ARCTIC C HEAVY	46	46.0	-39	195
MOBIL GARGOYLE ARCTIC OIL 155	32	32.0	-42	190
MOBIL GARGOYLE ARCTIC OIL 300	68	68.0	-36	200

Mobil™ EAL™ Arctic Series are high performance fully synthetic lubricants specifically designed for the lubrication of refrigeration compressors and systems using ozone-friendly synthetic HFC refrigerants as well as recently developed HFO refrigerants and HFO/HFC blends with lower Global Warming Potential than HFC's, including A1 and A2L refrigerants as per ASHRAE 34/ISO 817 safety classification. Mobil EAL Arctic Series oils are formulated with proprietary synthesized Polyol Esters (POEs) and a unique additive system to provide outstanding lubricity, wear protection, chemical and thermal stability, and hydrolytic stability.

	Kinematic Viscosity, ASTM D445					
	ISO VG	cSt at 40°C	cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D5950	Flash Point °C, ASTM D92
MOBIL EAL ARCTIC 22CC	22	23.6	4.9	134	-58	259
MOBIL EAL ARCTIC 22	22	23.5	4.7	114	-59	252
MOBIL EAL ARCTIC 32	32	31.6	5.6	115	-55	250
MOBIL EAL ARCTIC 46	46	46.2	6.9	104	-46	258
MOBIL EAL ARCTIC 68	68	65	8.3	96	-40	256
MOBIL EAL ARCTIC 100	100	96	10.6	93	-34	271
MOBIL EAL ARCTIC 220	220	221	18.1	88	-28	285

Mobil™ Zerice™ S Oils are premium quality synthetic refrigeration compressor lubricants based on alkyl benzenes, which due to their nature, have superior miscibility with hydrochlorofluorocarbon (R22). This allows them to be used in very low temperature applications, down to -60°C. In certain circumstances, they can also be used in compressors where ammonia acts as the refrigerating fluid.

	Kinematic Viscosity, ASTM D445			
	ISO VG	cSt at 40°C	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
MOBIL ZERICE S 32*	32	32	-33	154
MOBIL ZERICE S 68	68	68	-27	174
MOBIL ZERICE S 100*	100	100	-27	186

**These products are only available in the US.*

INDUSTRIAL LUBRICANTS

ROCK DRILL & PNEUMATIC TOOL OILS

Mobil™ Almo™ 500 Series lubricants are premium quality high performance products primarily intended for the lubrication of pneumatically operated rock drills in underground and surface mining operations. The Mobil Almo Series oils are formulated from high quality base stocks and additives, which provide excellent chemical stability and good protection against wear and corrosion. They offer an optimum balance of adhesiveness, yet are emulsifiable enough to pick up moisture carried in the air stream reducing the negative effects of water on wear and corrosion. They do not form gummy deposits that could cause sluggish valve action. Even in the presence of water, the Mobil Almo 500 Series oils have good preferential metal-wetting properties that maintain continuous oil films. These properties in combination with high EP characteristics help provide excellent lubrication resulting in long equipment life.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL ALMO 525	46	46	7.3	105	-30	188
MOBIL ALMO 527	100	100	11.5	100	-27	220
MOBIL ALMO 529	-	172	16.5	102	-24	220
MOBIL ALMO 530	220	220	19.7	100	-24	220
MOBIL ALMO 532	320	320	24.9	99	-21	232

Arox™ EP Series rock drill oils are premium quality high performance products primarily intended for the lubrication of pneumatically operated rock drills in underground and surface mining operations. Arox EP Series rock drill oils are formulated from high quality base stocks and carefully selected additives that are designed to provide excellent chemical stability and outstanding protection against wear and corrosion. They are also designed to offer an optimum balance between adhesiveness and emulsibility. This feature allows the lubricant to absorb moisture carried in the wet mine air system, while maintaining a protective oil film on the drill components. The potent EP characteristics of Arox EP Series rock drill oils provide excellent protection for the drill components that are subjected to percussive contact, thereby helping to improve equipment life in heavily loaded mining equipment.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
AROXP EP 22	22	4.6	127	-45	168
AROXP EP 32	32	5.7	119	-33	219
AROXP EP 100	100	11.7	105	-21	252
AROXP EP 150	150	15.5	106	-15	268
AROXP EP 220	220	19.5	101	-21	288

Pneumatic Tool Oils:

Mobil™ DTE 10 Excel™ Series	24
Mobil™ DTE™ Oil Light	12
Mobil™ Velocite™ Oil Numbered Series	34

INDUSTRIAL LUBRICANTS

RUST PREVENTIVES

Mobilarma™ 200 Series products are premium quality rust preventive materials designed to protect metal surfaces from rust and corrosion. They are formulated using light-bodied petroleum solvents with polar rust preventive, water displacement and fingerprint neutralising additives. These rust preventives are easy to apply and easy to remove making their application less labor force intensive. Mobilarma 245 is suited for the thin-film protection of finely finished parts between machining operations, including operations where water-soluble cutting and grinding fluids have been used. It is also suitable for use just before parts are packaged for storage or shipment, or to “dry” parts as a temporary protection until a heavier rust preventive can be applied. Mobilarma 247 is the heavier duty rust preventive designed to provide long term protection under more adverse conditions.

	Kinematic Viscosity, ASTM D445, cSt at 40°C	Flash Point, °C, ASTM D 92
	MOBILARMA 245	2.6
MOBILARMA 247*	3.0	71

*This product is only available in the US.

Mobilarma™ 798 contains three premium performance rust preventives that covers a range of applications including storage and inter-operational activities. Mobilarma 798 is intended for the lubrication and rust protection of wire rope in industrial, construction, mining and marine applications. This product exhibits excellent water displacing properties and forms thin tenacious films that protect surfaces even under severe conditions that include high moisture levels and exposure to acid or corrosive fumes. The Mobilarma 778 forms wet, oily and extremely thin barrier films that are not tacky so that it will not attract dirt or other foreign matter. It will protect sheet and coiled steel for up to twelve months, even under severe conditions that include variations in humidity and exposure to acid fumes that might be found in the vicinity of pickling operations.

	Kinematic Viscosity, ASTM D445, cSt at 100°C	Flash Point °C, ASTM D92
	MOBILARMA 798	23.1

Mobilarma™ 500 Series oils are premium performance products primarily intended as run-in or lay-up lubricants, which provide effective rust preventive films on the internal surfaces of machinery. They are particularly suitable as run-in lubricants for diesel and gasoline engines. The oils displace water from metal surfaces and form strong water-resistant films on the metal surfaces to prevent rust and corrosion. The Mobilarma Series oils absorb the water in systems into a water-in-oil emulsion so that the contact surfaces of the machinery still get satisfactory lubrication. Their high level of chemical stability and their anti-wear and detergent properties make them suitable as high quality short-term lubricants.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97, max	Flash Point °C, ASTM D92, min
	cSt at 40°C	cSt at 100°C			
MOBILARMA 522*	28.8	5.0	95	-24	182
MOBILARMA 524	88.4	10.5	95	-18	218

*This product is only available in the US.

Mobil™ Vaprotec™ Light is an ISO Viscosity Grade 32, turbine-quality circulation oil containing anti-oxidants and defoamants. It is enhanced with a three-phase rust inhibitor to protect surfaces lightly coated with oil; a liquid phase inhibitor to protect surfaces submerged in oil; and vapor space inhibitors to protect surfaces exposed to oil vapors.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97, max	Flash Point °C, ASTM D92, min
	cSt at 40°C	cSt at 100°C			
MOBIL VAPROTEC LIGHT	30	5.3	95	-7	193

INDUSTRIAL LUBRICANTS

TRANSFORMER OIL

Univolt™ N 61B is a good quality, fully inhibited transformer oil designed to meet the operating requirements of transformers and other oil filled electrical equipment. It meets the requirements of ASTM D 3487 Type II fluid, providing good performance in transformers, circuit breakers, switches, and capacitors.

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity D 1298
	cSt at 40°C	cSt at 100°C			
UNIVOLT N 61 B	9.2	2.3	-50	151	0.91

This product is only available in the US.

Voltesso™ 35 brand insulating oils are formulated from high quality basestocks and select additives that provide excellent low temperature performance and resistance to oxidation and sludge formation in electrical service. These high quality electrical insulating oils are designed and manufactured to provide cooling and to help insulate transformer components against electrical corona and arcing. Voltesso 35 is recommended for use in power transformers, especially those subject to cold start-up, or have forced oil cooling, including associated load tap changers, switches and circuit breakers that operate at ambient temperatures below -25°C. Voltesso meets Canadian Standards Association C50-08 specifications for Class A, Type I oils.

	ISO VG	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C		
VOLTESSO 35	35	7.6	2.1	-46	145

INDUSTRIAL LUBRICANTS

SPINDLE OILS

Mobil™ Velocite™ Oil Numbered Series oils are premium performance products primarily designed for the lubrication of high-speed spindles in machine tools. They are also used in some critical hydraulic, circulation systems and air line oilers where the appropriate viscosity grade is selected. They are formulated from select high-quality, low viscosity base oils and additives that impart good resistance to oxidation and protection from rust and corrosion. They possess very good resistance to foaming and separate readily from water.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL VELOCITE OIL NO 3	2	2.1	-	-	-36	84
MOBIL VELOCITE OIL NO 6	10	10	2.65	98	-15	180
MOBIL VELOCITE OIL NO 8	15	15	3.39	97	-9	194
MOBIL VELOCITE OIL NO 10	22	22	4.25	95	-30	212

INDUSTRIAL LUBRICANTS

WAY OILS

Mobil™ Vactra™ Oil Numbered Series are premium-quality slideway lubricants specifically designed to meet the requirements for accuracy, aqueous coolant separability, and equipment protection of precision machine tools.

	ISO VG	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C		
MOBIL VACTRA NO 1	32	32	-	-30	216
MOBIL VACTRA NO 2	68	68	-	-9	228
MOBIL VACTRA NO 3	150	156	-	-6	248
MOBIL VACTRA NO 4	220	221	-	-6	240

Mobil™ Vacuoline™ 1400 Series oils are extra high performance lubricants specifically designed to satisfy the requirements of machine tools that use one oil for both hydraulic systems and way lubrication. They are formulated using high quality mineral base oils and a unique additive technology that provides excellent lubricity properties to eliminate stick-slip and chatter of heavily loaded and vertical box ways.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL VACUOLINE 1405	32	32	5.3	96	-12	210
MOBIL VACUOLINE 1409	68	68	8.57	96	-6	218
MOBIL VACUOLINE 1419	220	215	19.0	96	-6	257

INDUSTRIAL LUBRICANTS

TURBINE OILS

Mobil™ SHC™ 800 Series turbine oils are designed specifically to meet the needs of the most severe industrial gas turbine applications with a nominal 10,000 hour TOST life. They are recommended for the lubrication of land-based gas turbines, particularly units under 3,000 hp used as standby power units, and in some types of total energy and combined cycle (gas/steam) systems. This product family is formulated with synthesized hydrocarbons and a unique additive system. This formula provides outstanding low temperature fluidity and exceptional resistance to degradation at high temperatures. Mobil SHC 800 Series lubricants also provide excellent antiwear properties as well as protection against rust and corrosion plus good air release performance and resistance to foaming.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL SHC 824	32	31.5	5.9	135	<-54	248
MOBIL SHC 825	46	43.9	7.9	145	-45	248

Mobil™ SHC™ 918 EE is a turbine oil that was designed to provide energy efficient benefits in certain GE gas turbine models. This product was developed together by ExxonMobil and GE. GE gas turbines operate at high power output that can thermally stress a lubricant resulting in filter plugging and valve sticking, shorter oil life, and reduced reliability.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL SHC 918 EE		18.9	4.2	125	-33	231

Mobil™ DTE™ 800 Series are superior performance turbine oils designed for use in steam turbines, gas turbines and combined cycle gas turbine (CCGT) applications under the most severe operating conditions. These progressive products are based on high quality hydrotreated basestocks for exceptional thermal/oxidation resistance along with specially chosen additives engineered to provide the deposit control and "keep-clean" performance required by severe duty gas turbines as well as excellent water separability needed for steam turbine operation. The formulations also include a non-zinc antiwear system to meet the load carrying requirements of geared turbines.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1
		cSt at 40°C	cSt at 100°C				
MOBIL DTE 832	32	29.6	5.4	110	-30	224	8
MOBIL DTE 846	46	42.4	6.2	106	-30	244	8

Mobil™ DTE™ 700 Series are Zinc-Free turbine lubricants specifically designed for use in gas and steam turbine applications. Mobil DTE 700 Series lubricants are formulated with carefully selected basestocks and additives, including antioxidants, rust and corrosion inhibitors and anti-foam agents. These components provide outstanding resistance to oxidation and chemical degradation over time. Mobil DTE 700 lubricants exhibit excellent water separability, resistance to emulsion formation and anti-foaming characteristics which provide reliable operation. Their enhanced air release properties are critical for turbine hydraulic control mechanisms.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL DTE 732	32	30	5.5	117	-30	228
MOBIL DTE 746	46	44	6.8	113	-30	230

Teresstic™ AC 32 is a rust and oxidation inhibited ammonia compatible compressor and circulating oil. It is formulated primarily for equipment in ammonia production or service such as centrifugal compressors in chemical plants.

Teresstic AC 32 can be used in hydraulic systems where the pump manufacturer requires a mineral type oil that does not meet antiwear additives such as those containing silver plated components.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
TERESSTIC AC 32	32.0	5.52	109	-40	204

Mobil™ DTE™ 932 GT is a next generation high performance turbine oil designed for use in large frame turbines under severe operating conditions. This product is based on selected high quality base oils carefully balanced with a proprietary additive system to provide long oil life in combination with industry leading "keep clean" performance. The formulations also include a non-zinc antiwear system to meet the load carrying requirements of geared turbines.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL DTE 932 GT	32	31.5	6.1	141	-18	240

Mobil™ DTE™ 732 M2 is next generation high performance turbine oil designed for use in Mitsubishi Heavy Industry (MHI) non-geared Single Shaft Heavy Duty Gas & Steam Turbines and Multi Shaft Gas Turbines, including turbines equipped with PEEK bearings. This product meets MHI's requirements for long life – high temperature turbine applications, MS04-MA-CL005 (Rev. 2), through high quality base oils and additive system designed to provide long oil life. Mobil DTE 732 M2 also meets the requirements of MS04-MA-CL001 and CL002.

	ISO VG	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
		cSt at 40°C	cSt at 100°C			
MOBIL DTE 732 M2	32	31.0	5.8	131	-15	233

This product is only available in the US.

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QUESTIONS?

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COMMERCIAL VEHICLE PRODUCT LISTING BY APPLICATION**HEAVY DUTY DIESEL - ENGINE OILS**

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BOOST ENGINE PERFORMANCE AND IMPROVE UPTIME

Many fleets have individual needs. Mobil Delvac™ products can help increase uptime, help optimize costs effectively, and protect the life of the vehicle by:



Extending equipment life:

Our products can help reduce wear and minimize deposit and sludge formation, which can help reduce engine wear and extend life of equipment.



Optimize oil drain intervals:

There's more to extending drain intervals than just additional miles, it's about increasing uptime and lowering overall oil consumption. Mobil Delvac™ products can help optimize these drain intervals, helping to produce real savings of both overall costs and equipment downtime.



Providing better fuel economy:

Mobil Delvac™ products can help improve engine performance and fuel economy savings. ¹

¹Fuel economy improvements are dependent on vehicle/equipment type, outside temperature, driving conditions and current fluid viscosities

*Based on US engine manufacturers' (OEM) average oil drain intervals (ODI) API CK-4 / API FA-4 recommendation. Results vary based on vehicle/engine condition, driving and environmental conditions. Consult OEM or Imperial Oil before implementing extended ODIs, especially if the equipment/vehicle is under warranty.

CHOOSE THE RIGHT OIL FOR YOUR OPERATION

Product Name	Mobil Delvac™ 1	Mobil Delvac™ Extreme	Mobil Delvac™ 1300 Super	Mobil Delvac™ HDEO
Oil Type	Advanced Full Synthetic	Synthetic	Premium Synthetic Blend	Synthetic Blend
API Category	CK-4	CK-4	CK-4	CK-4
Viscosity Grades	ESP 0W-40, ESP 5W-40, 5W-30 Adv Syn	15W-40, 10W-30	15W-40, 10W-30	15W-40, 10W-30
Advanced Wear Protection	Outstanding performance at extreme temperatures Step out wear protection	Exceptional performance in extreme conditions and extended ODI service Long life of critical wear surfaces	Excellent anti-wear performance Up to 50% more wear protection compared to API CK-4 requirements	Up to 30% more wear protection compared to API CK-4 requirements
Oil Drain Intervals	Up to 3X OEM recommended ODI*	Up to 2X OEM recommended ODI*	Up to 1.5X OEM recommended ODI*	Standard ODI
Fuel Economy Potential	5W-30 Adv Syn: ESP 0W-40, ESP 5W-40:	10W-30: 15W-40:	10W-30: 15W-40:	10W-30: 15W-40:
Fuel Type	Diesel, Renewable diesel, gasoline	Diesel, Renewable diesel, gasoline (15W-40 only)	Diesel, Renewable diesel, gasoline	Diesel, Renewable diesel

*Based on US engine manufacturers' (OEM) average oil drain intervals (ODI) API CK-4 / API FA-4 recommendation. Results vary based on vehicle/engine condition, driving and environmental conditions. Consult OEM or Imperial Oil before implementing extended ODIs, especially if the equipment/vehicle is under warranty.

CHOOSE THE RIGHT OIL FOR YOUR OPERATION

COMMERCIAL VEHICLE LUBRICANTS

HEAVY DUTY DIESEL - ENGINE OILS

Product Name	Mobil Delvac™ 1	Mobil Delvac™ Extreme FE	Mobil Delvac™ Super FE
Oil Type	Advanced Full Synthetic	Synthetic	Premium Synthetic Blend
API Category	FA-4	FA-4	FA-4
Viscosity Grades	5W-30	10W-30	10W-30
Advanced Wear Protection	 Outstanding performance at extreme temperatures Step out wear protection	 Exceptional performance in extreme conditions and extended ODI service Long life of critical wear surfaces	 Excellent anti-wear performance Up to 50% more wear protection compared to API CK-4 requirements
Oil Drain Intervals	 Up to 3X OEM recommended ODI*	 Up to 2X OEM recommended ODI*	 Up to 1.5X OEM recommended ODI*
Fuel Economy Potential	 5W-30:	 10W-30:	 10W-30:
Fuel Type	Diesel, Renewable diesel, gasoline	Diesel, Renewable diesel	Diesel, Renewable diesel, gasoline

Mobil Delvac 1™ ESP 5W-40 is an advanced full synthetic, high-performance diesel engine oil that helps to extend engine life for modern diesel engines operating in severe conditions. Mobil Delvac 1 ESP 5W-40 diesel engine oil is formulated to deliver exceptional performance in newer and older engine designs, including those with emission control systems. Its formulation meets or exceeds the requirements of original equipment manufacturers (OEMs) with state-of-the-art technology that provides outstanding performance at extreme, temperatures, our best protection for drivers with extended oil drain intervals and enhanced emission system protection in a variety of severe conditions.

Mobil Delvac 1™ ESP 0W-40 is an advanced full synthetic heavy-duty diesel engine oil that was designed to protect modern diesel engines operating in severe on- and off-highway application. Mobil Delvac 1 ESP 0W-40 is recommended for use in a wide range of heavy-duty applications and operating environments found in the on-road transport and off-road, mining, forestry, construction, and agricultural industries. It can also be used in refrigeration units and older, well-maintained engines.

Mobil Delvac 1™ 5W-30 Advanced Synthetic is an advanced full synthetic, high-performance diesel engine oil that delivers long drain capability up to 3 times the average OEM recommendation and fuel economy potential while helping to extend engine life for modern diesel engines operating in severe conditions. It is an outstanding lubricant solution for modern and latest engine technologies equipped with after treatment devices. It was developed to maintain unsurpassed oxidation stability performance to meet long oil drain intervals and support low maintenance efforts. This product meets or exceeds the requirements of the latest API and ACEA industry specifications for diesel engine oils, as well as the requirements of many major American, and European engine manufacturers.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC 1 ESP 5W-40	84	13.8	169	1	12	-48
MOBIL DELVAC 1 ESP 0W-40	90	14.6	176	1	11	-48
MOBIL DELVAC 1 5W-30 ADVANCED SYNTHETIC	73.2	11.95	160	0.95	8.3	-42

Mobil Delvac Modern™ 10W-40 Advanced Protection is a synthetic extra high performance diesel engine oil engineered to provide lubrication to modern, high performance, low emissions engines used in severe applications. This engine oil is designed using high performance base oils which provide excellent low temperature fluidity, high temperature viscosity retention and volatility control. Its specifications and approvals allow Mobil Delvac XHP ESP 10W-40 to target mixed fleet applications.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Total Base #, mg KOH/g, ASTM D2896
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC MODERN 10W-40	91	13.7	153	-30	13.2

Mobil Delvac 1™ Advanced Fuel Economy 5W-30 is our most sophisticated synthetic heavy-duty diesel engine oil, developed to meet API FA-4 Industry and many OEM fuel economy specifications. Mobil Delvac 1™ Advanced Fuel Economy 5W-30 is the most advanced lubricant solution for latest, fuel-efficient engine technology equipped with emission after-treatment devices. It was developed by ExxonMobil to provide fuel savings while maintaining outstanding wear performance. Mobil Delvac 1™ Advanced Fuel Economy 5W-30 also provides unsurpassed oxidation stability performance, providing long oil drain intervals up to 3 times the average OEM recommendation. The low ash formulation protects at the same time all exhaust after-treatment parts required to meet emissions regulations.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC 1 ADVANCED FUEL ECONOMY 5W-30	61.78	10.2	153	0.95	10.8	-42

Mobil™ Delvac™ Extreme 10W-30 and 15W-40 are premium synthetic, high performance, diesel engine oils that help extend engine life while providing long drain capability for modern diesel engines operating in extreme conditions. They are recommended for use in a wide range of heavy-duty applications and operating environments found on- and off-highway, including engines operating under heavy loads. Mobil Delvac Extreme is formulated with synthetic base stocks and a boosted additive system tailored to deliver extended performance for up to 2 times the average OEM recommended oil drain intervals. The proprietary formulation delivers excellent wear protection, exceptional oxidation stability, and outstanding TBN retention. Mobil Delvac Extreme also provides outstanding resistance to oil consumption, oxidation, corrosive and abrasive wear, and high temperature deposits.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC EXTREME 10W-30	81.1	11.8	140	1	9.6	-42
MOBIL DELVAC EXTREME 15W-40	107.4	14.3	133	1	10.3	-33

Mobil Delvac™ Super FE 10W-30 is an advanced, synthetic blend, diesel engine oil that helps extend engine life. It meets or exceeds the new API FA-4 specification for fuel efficient engine oils as well as key original equipment manufacturer (OEM) requirements.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC SUPER FE 10W-30	64.1	9.8	140	0.9	9.8	-36

*Based on US engine manufacturers' (OEM) average oil drain intervals (ODI) API CK-4 / API FA-4 recommendation. Results vary based on vehicle/engine condition, driving and environmental conditions. Consult OEM or Imperial Oil before implementing extended ODIs, especially if the equipment/vehicle is under warranty.

COMMERCIAL VEHICLE LUBRICANTS

HEAVY-DUTY DIESEL - ENGINE OILS

Mobil™ Delvac™ Extreme FE 10W-30 is a premium synthetic, high performance, diesel engine oil that helps extend engine life while providing long drain capability for modern diesel engines operating in extreme conditions. It meets or exceeds the new API FA-4 specification for fuel efficient engines oils as well as key original equipment manufacturer (OEM) requirements.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC EXTREME FE 10W-30	63.8	10	140	1	10.3	-33

Mobil™ Delvac™ Modern CNG/LNG engine oil provides excellent performance in the challenging operating environments presented by Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) and offers extended drain interval capability. It is a high-performance, heavy-duty engine oil formulated for diesel engines and spark-ignited, CNG- and LNG-fueled truck and bus engines. The product has approvals for Cummins CES 20092 and API CK-4 specifications.

	Kinematic Viscosity, ASTM D 445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Total Base #, mg KOH/g, ASTM D2896
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC MODERN 15W-40 CNG/LNG	15	-33	223		10

Mobil™ Delvac™ 1300 Super Series are advanced, premium synthetic-blend, diesel engine oils that help extend engine life, allowing you to run your business with confidence. These products meet or exceed original equipment manufacturer (OEM) requirements and deliver high performance in both on and off-highway applications. Fully backward compatible, Mobil Delvac 1300 Super delivers exceptional performance in both newer and older heavy-duty engine designs. Accordingly, these oils meet or exceed the requirements of API CK-4, CJ-4, CI-4 PLUS, CI-4 and CH-4 service categories, as well as key OEM requirements. Mobil Delvac 1300 Super oils are universal, meaning they may also be used in gasoline engines requiring the API SP specification. Mobil Delvac 1300 Super is a tailored formulation that delivers excellent wear and engine protection, extended drain capability of up to 1.5 times the average ODI recommendation, outstanding high temperature performance and engine cleanliness.

	Kinematic Viscosity, ASTM D 445		Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC SUPER 10W-30	-	12	0.9	9.6	-33
MOBIL DELVAC SUPER 15W-40	109	14	0.9	9.4	-33

Mobil™ Delvac™ HDEO 10W-30 and 15W-40 are synthetic blend diesel engine oils designed to meet warranty requirements for high-speed, four-stroke heavy-duty diesel engines. These products are formulated to maintain the durability of emission control systems, including diesel particulate filters and other advanced after treatment systems. Mobil Delvac HDEO meets or exceeds the requirements of API service classifications CK-4, CJ-4, CI-4 PLUS, CI-4 and CH-4. These products are also approved by major original equipment manufacturers (OEM).

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC HDEO 10W-30	82	12	140	1	10	-36
MOBIL DELVAC HDEO 15W-40	112	14.2	132	1	10	-27

Mobil™ Delvac™ 1630, 1640 and 1650 are high performance monograde diesel engine oils formulated from advanced technology base oils and a balanced additive system. They are recommended for use in intercooled, turbo-charged engines operating under severe on and off-highway conditions as well as a wide range of applications where a monograde lubricant is recommended.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C				
MOBIL DELVAC 1630	90	11.5	117	1.4	12	-30
MOBIL DELVAC 1640	132	14.7	112	1.4	12	-21
MOBIL DELVAC 1650	202	19.5	110	1.4	12	-18

Mobil™ Delvac™ 1220, 1230, 1240 and 1250 are heavy-duty high performance monograde diesel engine oils formulated from high performance base oils and a balanced additive system of ashless dispersants, metallic detergents, and inhibitors to control oxidation, wear, corrosion, and rust. They are used in a wide range of applications where a monograde lubricant is recommended including 2-cycle diesel applications.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Sulfated Ash, wt%, ASTM D 874	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97	Flash Point, °C, ASTM D92
	cSt at 40°C	cSt at 100°C					
MOBIL DELVAC 1220*	66	8.3	111	0.9	7	-27	228
MOBIL DELVAC 1230	104.7	11.9	102	0.82	7	-27	238
MOBIL DELVAC 1240	157.6	15.5	99	0.82	7.1	-21	247
MOBIL DELVAC 1250*	215.5	19.6	99	0.82	7.1	-21	241

*These products are only available in USA

Mobil Delvac Modern™ 15W-40 Extended Performance is a premium semi-synthetic, high-performance diesel engine oil that provides extended ODI potential up to 2 times the average OEM ODI recommendation or up to 1,000 hours while helping to extend engine life for most high-performance diesel engines in off-highway applications. Mobil Delvac Modern™ 15W-40 Extended Performance is specifically formulated with a reinforced additive system designed for use in a wide variety of heavy-duty applications in off-highway environments, including engines found in the mining and construction sectors

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC MODERN 15W-40 EXTENDED PERFORMANCE	118	15.8	142	9.2	-30

Mobil Delvac Ultra™ 5W-40 Extended Performance is an advanced full synthetic, high-performance diesel engine oil that provides extended ODI potential up to 4 times the average OEM ODI recommendation or up to 2000 hours while helping to extend engine life for most high-performance diesel engines in off-highway applications. Mobil Delvac Ultra 5W-40 Extended Performance is recommended for use in a wide range of heavy-duty applications and operating environments found in the off-road mining, forestry, construction, and agricultural industries. This product meets or exceeds the requirements of the latest API industry specifications for diesel engine oils, as well as the requirements of several off-highway major American engine manufacturers.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Total Base #, mg KOH/g, ASTM D2896	Pour Point °C, ASTM D 97
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC ULTRA 5W-40 EXTENDED PERFORMANCE	92.3	15.2	10.6		-42

MOBIL 1™ ESP X2 0W-20.....50

Please refer to exxonmobil.com/en/pds for latest product information Imperial Oil licensee

COMMERCIAL VEHICLE LUBRICANTS

HEAVY-DUTY DIESEL - TRANSMISSION AND DRIVETRAIN FLUIDS

Mobil Delvac 1™ ATF is a fully synthetic fluid recommended by Allison Transmission, Inc. approved against the Allison TES-295® and TES-468® Specifications. The fluid is designed to meet the demanding requirements of modern heavy-duty automatic transmissions. The synthetic base oil composition enables excellent performance even in some of the harshest of operating conditions. It offers outstanding gear shifting and power transfer performance versus conventional ATF fluids, the inherently high viscosity index and stability of Mobil Delvac 1 ATF protects against thermal breakdown at high operating temperatures, while still providing outstanding performance at sub-zero temperatures.

Mobil Delvac 1™ ATF 668 is a fully synthetic transmission fluid recommended by Allison Transmission, Inc. that is approved against the Allison TES-668® specification, and is backwards compatible for applications recommending Allison TES-295®. The fluid is designed to meet the demanding requirements of modern heavy-duty automatic transmissions.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC 1 ATF	39	7.3	168	-54	236
MOBIL DELVAC 1 ATF 668	36.5	6.85	154	-54	233

Mobil Delvac 1™ Transmission Fluid V30 and V50 are fully synthetic, heavy-duty manual transmission lubricants. Recommended for year-round lubrication of manual transmissions in light to severe duty on- and off-highway equipment operating in a wide range of environments.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC 1 TRANSMISSION FLUID V30	54	9.2	152	-51	242
MOBIL DELVAC 1 TRANSMISSION FLUID V50	115	17.8	172	-42	252

Mobil Delvac Modern™ All Season Trans Fluid 20, 30 and 40 are high performance drivetrain lubricants engineered to meet or exceeds the requirements of Caterpillar's new TO-4M performance specifications for off-highway transmissions, drive trains, and hydraulic systems. These advanced technology lubricants provides clutch and brake compatibility and extended life that has not been possible with previous formulations. Mobil Delvac Modern™ All Season Trans Fluid incorporates a blend of semi-synthetic base oils with an advanced additive system. The product is recommended for all-season lubrication all drivetrain components in light to severe duty off-highway equipment operating in a wide range of environments.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC MODERN ALL SEASON TRANS FLUID 20	30.7	7.36	221	-54	190
MOBIL DELVAC MODERN ALL SEASON TRANS FLUID 30	57.6	10.5	173	-45	190
MOBIL DELVAC MODERN ALL SEASON TRANS FLUID 40	107	14.2	134	-39	222

Mobil Delvac 1™ Transmission Fluid MBT is an SAE 75W-90, fully synthetic manual transmission oil. Mobil Delvac 1 Transmission Fluid MBT 75W-90 has excellent viscosity/temperature characteristics.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC TRANSMISSION FLUID MBT 75W-90	96.3	14.7	159	-45	179

Mobil Delvac 1™ Transmission Fluid Arctic is a supreme performance, synthetic drivetrain lubricant engineered to meet the demanding requirements of major manufacturers of heavy-duty commercial equipment in extremely cold climate applications. It is recommended for use in truck and other commercial transmissions where Caterpillar TO-4 and Allison C-4 performance specifications are required. Mobil Delvac 1 Transmission Fluid Arctic provides outstanding clutch and brake compatibility, and friction control along the widest temperature range performance.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC 1 TRANSMISSION FLUID ARCTIC	81	12.2	146	-51	228

Mobilube™ XFD 50 and 60 are extra high performance drivetrain lubricants engineered specifically to provide optimum component life when used as recommended in Caterpillar final drives and axles. They are formulated from advanced base oils and the latest additive technology to protect bearings and gears from premature failure due to fatigue. These lubricants deliver excellent performance in heavy-duty commercial axles and final drives where extreme pressures and shock loading are expected. They provide exceptional chemical and thermal stability at elevated bulk oil temperatures generated under heavy loads and/or high ambient temperatures.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBILUBE XFD 50	206	18.4	97	-24	250
MOBILUBE XFD 60	334	25.2	97	-15	255

Mobilube™ HD LS 80W-90 is an extra high performance, automotive lubricant formulated from select base oils and an advanced additive system specifically for limited-slip differentials. This lubricant is engineered for performance in heavy duty limited-slip differentials, axles, and final drives where extreme pressures and shock loading are expected providing API GL-5 level performance.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBILUBE HD LS 80W-90	141	14.8	105	-30	230

Mobil Delvac Modern™ Off-Highway Trans Fluid 10W, 30, 50 and 60 are extra high performance, heavy duty transmission and drivetrain lubricants engineered to meet or exceed the requirements of the rigorous Caterpillar TO-4 specification. This product line is uniquely designed to optimize the performance of powershift transmissions, gearboxes, and final drives. In hydraulic applications, they provide maximum protection even in high pressure systems.

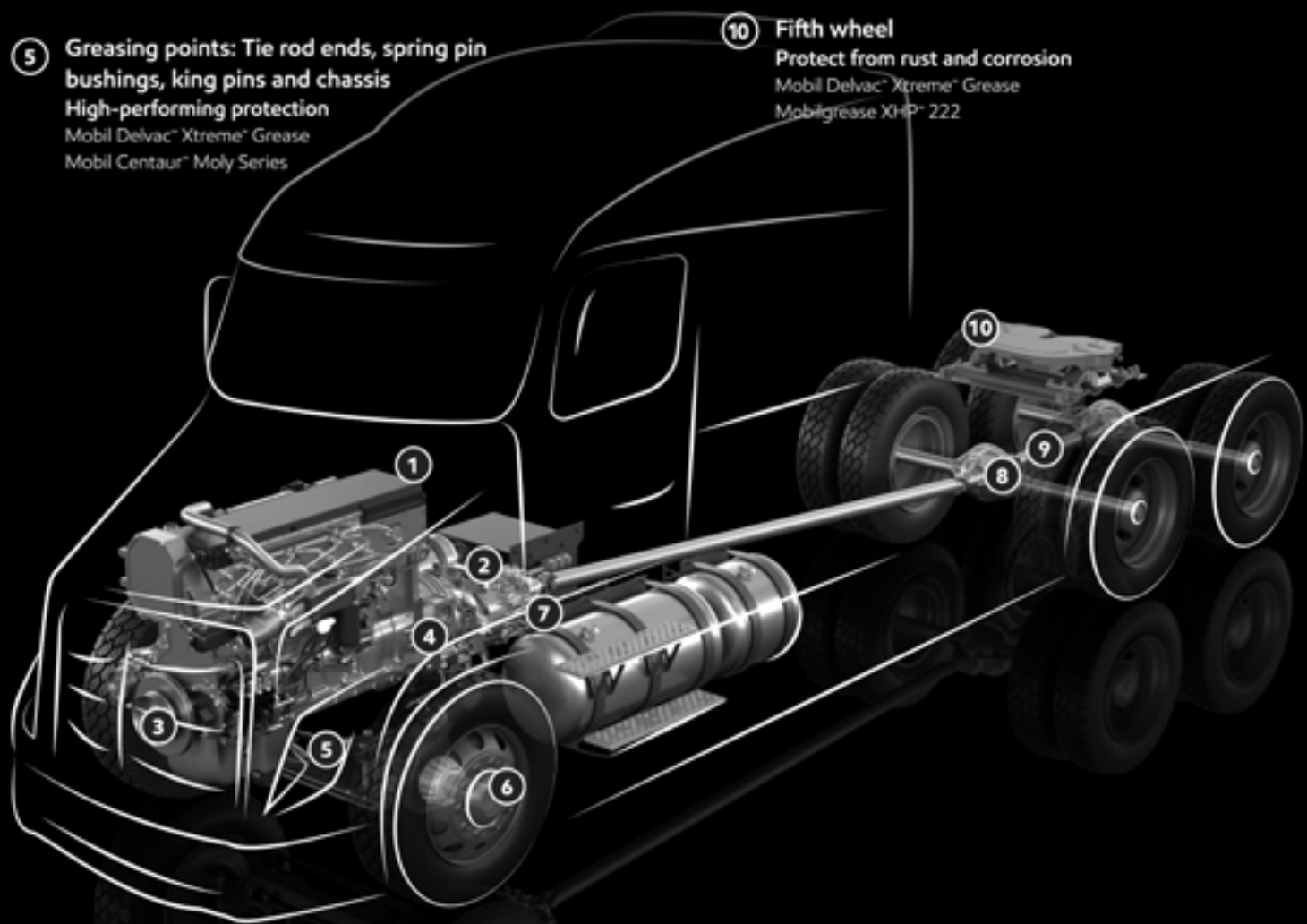
	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC MODERN OFF-HIGHWAY TRANS FLUID 10W	42	6.3	96	-33	202
MOBIL DELVAC MODERN OFF-HIGHWAY TRANS FLUID 30	100	11.2	97	-18	224
MOBIL DELVAC MODERN OFF-HIGHWAY TRANS FLUID 50	195	18	100	-15	240
MOBIL DELVAC MODERN OFF-HIGHWAY TRANS FLUID 60	340	25.2	96	-12	244

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- 1 Engine**
Extend your engine life
 Mobil Delvac 1™ Advanced Fuel Economy 5W-30 (FA-4)
 Mobil Delvac 1™ 5W-30 Advanced Synthetic (CK-4)
 Mobil Delvac 1™ ESP 5W-40 (CK-4)
 Mobil Delvac™ Extreme FE 10W-30 FA-4
 Mobil Delvac™ Extreme 10W-30 CK-4
 Mobil Delvac™ Extreme 15W-40 CK-4
 Mobil Delvac™ 1300 Super 10W-30 CK-4
 Mobil Delvac™ 1300 Super 15W-40 CK-4
 Mobil Delvac™ Super FE 10W-30 FA-4
 Mobil Delvac™ Modern™ 15W-40 CNG/LNG
- 2 Clutch throw-out bearings**
Protect from rust and corrosion
 Mobil Delvac™ Xtreme™ Grease
 Mobilgrease™ XHP™ 222
- 3 Engine radiator**
Extend your engine life
 Mobil Delvac™ Extended Life Coolant/Antifreeze
- 4 Manual steering gear**
Excellent thermal stability and oxidation resistance
 Mobil ATF™ D/M
 Mobilith SHC™ 007
- 5 Greasing points: Tie rod ends, spring pin bushings, king pins and chassis**
High-performing protection
 Mobil Delvac™ Xtreme™ Grease
 Mobil Centaur™ Moly Series
- 6 Steer axle wheel bearings**
Excellent thermal stability and oxidation resistance
 Mobil Delvac 1™ Gear Oil 75W-90
 Mobil Delvac 1™ Transmission Fluid 40
 Mobilith SHC™ 007
- 7 Transmission**
Smooth-running transmission
 Mobil Delvac 1™ ATF (Allison TES 295)
 Mobil Delvac 1™ ATF 668 (Allison TES 668)
 Mobil Delvac 1™ Transmission Fluid 40 (Eaton PS-386)
 Mobil Delvac 1™ Transmission Fluid MBT 75W-90 (Detroit DT-12)
 Mobil Delvac 1™ Transmission Fluid V30 (Volvo 97318)
 Mobil Delvac 1™ Transmission Fluid V50 (Volvo 97319)
- 8 Differential/Final drive**
Performance under pressure
 Mobil Delvac 1™ Gear Oil 75W-90
- 9 Universal joints**
Protect from rust and corrosion
 Mobil Delvac™ Xtreme™ Grease
 Mobilgrease XHP™ 222
- 10 Fifth wheel**
Protect from rust and corrosion
 Mobil Delvac™ Xtreme™ Grease
 Mobilgrease XHP™ 222



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COMMERCIAL VEHICLE LUBRICANTS

HEAVY-DUTY DIESEL - HYDRAULIC OILS

DIOL™ Series oils are premium heavy-duty crankcase lubricants for locomotive diesel engines. These products were developed to meet the stringent performance requirements of Tier 4 locomotives from Progress Rail (EMD engines) and GE Transportation.

	Kinematic Viscosity, ASTM D 445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Total Base #, mg KOH/g, ASTM D2896
	cSt at 40°C	cSt at 100°C			
DIOL 40	137.7	14.2	100	-24	10
DIOL 20W-40	132.9	15.4	120	-33	-

Mobil™ Hydraulic 10W is a high performance hydraulic oil formulated from advanced base oils and a balanced additive system designed to satisfy a wide range of heavy-duty hydraulic equipment requirements. This product is specifically engineered using an effective balance of ashless dispersants and metallic detergents combined with inhibitors to control oxidation, wear, corrosion and rust.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL HYDRAULIC 10W	37.7	6.1	107	-30	232

COMMERCIAL VEHICLE LUBRICANTS

HEAVY-DUTY DIESEL - GEAR OILS

Mobil Delvac 1™ Gear Oil 75W-90 and 80W-140 are fully synthetic drivetrain lubricants engineered to meet very demanding extended drain and warranty requirements. These products are designed for use in heavy-duty drivetrains that require gear lubricants with excellent load-carrying capability and where extreme pressures and shock loading are expected.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC 1 GEAR OIL 75W-90	120	15	140	-48	205
MOBIL DELVAC 1 GEAR OIL 80W-140	244	27.9	150	-47	210

Mobilube™ HD Plus MG 75W, 80W-90 and 85W-140 are extra high performance commercial gear lubricants formulated from select base oils and an advanced additive system. These lubricants are engineered for performance in heavy-duty commercial transmissions, axles, and final drives where extreme pressures and shock loading are expected. They provide excellent chemical and thermal stability at elevated bulk oil temperatures, good performance at low temperatures, and have demonstrated good rust protection resulting from water contamination and wet conditions. They are recommended by ExxonMobil for applications where API GL-5 and MT-1 service is required.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBILUBE HD PLUS MG 75W	92	15.8	184	-45	150
MOBILUBE HD PLUS 80W-90	146	15.8	111	-27	165
MOBILUBE HD PLUS 85W-140	347	27.4	105	-15	200

COMMERCIAL VEHICLE LUBRICANTS

EV

Mobil EV™ Drive 201 is a high performance powertrain fluid for electric vehicle reduction gearboxes.

It provides extended fluid life through superior thermal-oxidative stability and outstanding resistance against sludge and deposit formation; excellent low temperature performance to help maintain equipment efficiency during cold temperature start up and driving, enabling further distances between recharging; and excellent lubrication protection to ensure the reliability of EV componentry throughout the expected life cycle.

Formulated to provide outstanding corrosion protection and thermal-oxidative stability to maintain system cleanliness, even under the higher thermal stresses in EV powertrains.

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBIL EV DRIVE 201	29.6	5.9	-55	215

COMMERCIAL VEHICLE LUBRICANTS

TRACTOR HYDRAULIC FLUIDS

Mobil Delvac™ Tractor Hydraulic Fluid is an extra high performance multipurpose tractor lubricant engineered to meet or exceed transmission and hydraulic fluid requirements. The advanced technology in Mobil Delvac Tractor Hydraulic Fluid is designed to optimize the performance of agricultural and commercial tractors operating in a wide range of environments and conditions.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC TRACTOR HYDRAULIC FLUID	55	9.3	145	-42	198

This product is only available in the US.

Mobilfluid™ LT is an extra high performance multipurpose tractor lubricant engineered to meet or exceed tractor transmission, drivetrain, and hydraulic fluid requirements. This product is designed to optimize the performance of agricultural and industrial tractors operating in a wide range of environments and especially in low ambient temperature applications.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBILFLUID LT	34	7.2	180	-45	198

This product is only available in the US.

Mobil Hydraul™ products are high performance multipurpose tractor lubricants developed for use in agriculture, forestry, mining and construction equipment where a common oil sump is used for the transmission, differential, final drive, wet brake, wet clutch and hydraulic components. The advanced technology in Mobil HYDRAUL products is designed to optimize the performance of agriculture, forestry, mining and construction equipment operating in a wide range of environments and conditions.

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBIL HYDRAUL 50	34	7.25	-45	196
MOBIL HYDRAUL 56	55	9.3	-42	192
MOBIL HYDRAULIC EXTRA	43	9.6	-48	170

These products are only available in Canada

Mobilfluid™ 424 is an extra high performance multipurpose tractor lubricant engineered to meet or exceed transmission and hydraulic fluid requirements. The advanced technology in Mobilfluid 424 is designed to optimize the performance of agricultural and commercial tractors operating in a wide range of environments and conditions. Mobilfluid 424 combines select base oils and an advanced additive package to deliver the varied lubricant performance properties required in severe duty applications of agricultural and construction equipment drive trains. It is particularly well suited for reducing wet brake and Power Take-Off (PTO) chatter.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBILFLUID 424	55	9.3	145	-42	198

This product is only available in the US.

COMMERCIAL VEHICLE LUBRICANTS

OTHER COMMERCIAL OILS

Mobil Delvac 1™ Final Drive and Axle Oil is a high performance drivetrain lubricant that meets the requirements of the Caterpillar FD-1 standard. It is specifically engineered to provide optimum component life when used as recommended in off-highway truck and bulldozer final drives, axles, bevel gears, and differentials, especially those operating under high loads and extreme temperatures. The synthetic base oil composition enables excellent performance in some of the harshest operating conditions and over a wide temperature range, in high temperatures as well as temperatures down to -35c.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL DELVAC 1 FINAL DRIVE AND AXLE OIL	320	31.6	138	-45	246

Mobil™ GEO™ 10W-40 is a synthetic blend engine oil specifically formulated to provide reliable protection for engines using natural gas fuel, including Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG). This advanced low ash formulation provides excellent oxidation, nitration, and thermal stability to reduce combustion chamber ash deposits and minimize low spark plug fouling. Additionally, this engine oil was designed to operate over a wide range of operating temperatures, including cold start capabilities, helping operators run equipment longer and more reliably. Lastly, Mobil GEO 10W-40 was formulated with a robust anti-wear package, designed to extend the life of critical engine components, such as cams, lifters, and rockers.

Mobil™ GEO™ 15W-40 is a premium fleet engine oil specifically formulated to provide reliable protection for trucks and buses using Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG). Mobil GEO 15W-40 is formulated from high quality base stocks and a balanced additive system. This advanced medium ash formulation provides excellent oxidation, nitration, and thermal stability to minimize combustion chamber ash deposits. Mobil GEO 15W-40 lubricates with less varnish, sludge, and carbon build-up under the most severe operating conditions.

	Kinematic Viscosity, ASTM D445		V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C			
MOBIL GEO 10W-40	105	14.3	139	-27	228
MOBIL GEO 15W-40	110	14.4	130	-27	210

These products are only available in Canada.

PASSENGER VEHICLE PRODUCT LISTING BY APPLICATION

PASSENGER VEHICLE ENGINE OILS

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Mobil 1™ Hybrid 0W-20.....	50
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PASSENGER VEHICLE LUBRICANTS

PASSENGER VEHICLE ENGINE OILS

Mobil 1™ 5W-20, 5W-30, 10W-30 and 15W-50 are advanced full synthetic engine oils, formulated to keep your engine running like new and protect critical engine parts for 10,000 miles between oil changes - guaranteed.* These oils help extend engine life, even in severe conditions and contain extra additives to help fight sludge.**
*Protects for 10,000 miles or one year - whichever comes first.

** Compared to Mobil 1™ (API SN+) motor oil.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 5W-20	46.28	8.418	-45	233
MOBIL 1 5W-30	62.17	10.75	-42	242
MOBIL 1 10W-30	68.12	10.75	-48	237
MOBIL 1 15W-50	125	18	-39	232

Mobil 1™ Advanced Fuel Economy 0W-8, 0W-16, 0W-20 and 0W-30 are advanced full synthetic engine oils designed to provide excellent engine protection and help improve fuel economy.* These formulas help to increase engine efficiency and protect for 10,000 miles between oil changes - guaranteed.**

*Potential fuel economy improvement obtained by switching from higher-viscosity oils to a lower-viscosity grade. Actual savings are dependent upon vehicle/engine type, outside temperature, driving conditions, and your current engine oil viscosity.

**Protects for 10,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 ADVANCED FUEL ECONOMY 0W-8	23.0	5.0	<-60	232
MOBIL 1 ADVANCED FUEL ECONOMY 0W-16	38.4	7.4	-54	244
MOBIL 1 ADVANCED FUEL ECONOMY 0W-20	44.1	8.3	-42	231
MOBIL 1 ADVANCED FUEL ECONOMY 0W-30	56.8	10.5	-42	227

Mobil 1™ High Mileage 0W-20, 5W-20, 5W-30, 10W-30 and 10W-40 are advanced full synthetic engine oils formulated to provide outstanding engine protection for vehicles with over 75,000 miles for 10,000 miles between oil changes, guaranteed.* These engine oils are specially formulated to help protect critical engine parts and prevent leaks.

*Protects for 10,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 HIGH MILEAGE 0W-20	43.08	8.08	-51	231
MOBIL 1 HIGH MILEAGE 5W-20	46.44	8.422	-45	230
MOBIL 1 HIGH MILEAGE 5W-30	61.93	10.62	-48	233
MOBIL 1 HIGH MILEAGE 10W-30	68.22	10.72	-45	240
MOBIL 1 HIGH MILEAGE 10W-40	89.75	13.92	-42	231

Mobil 1™ Hybrid 0W-20 is an advanced full synthetic engine oil specially formulated for the unique technical needs of hybrid engines and designed to protect for 15,000 miles between oil changes - guaranteed.*

*Protects for 15,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 HYBRID 0W-20	43.6	8.2	-42	225

Mobil 1™ Extended Performance 0W-20, 5W-20, 5W-30 and 10W-30 are advanced full synthetic engine oils, engineered to deliver ultimate engine performance even in severe conditions. This top tier formulation protects for 20,000 miles between oil changes - guaranteed.*

*Protects for 20,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 EXTENDED PERFORMANCE 0W-20	44.6	8.8	-45	222
MOBIL 1 EXTENDED PERFORMANCE 5W-20	44.2	8	-48	235
MOBIL 1 EXTENDED PERFORMANCE 5W-30	58.7	10.15	-33	235
MOBIL 1 EXTENDED PERFORMANCE 10W-30	62.8	10.3	-45	251

Mobil 1™ Extended Performance High Mileage 0W-20, 5W-20 and 5W-30 are advanced full synthetic engine oils designed for engines with over 75,000 miles and engineered to deliver ultimate engine performance even in severe conditions. This top tier formulation protects for 20,000 miles between oil changes - guaranteed.*

*Protects for 20,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 EXTENDED PERFORMANCE HIGH MILEAGE 0W-20	45.7	8.5	-42	235
MOBIL 1 EXTENDED PERFORMANCE HIGH MILEAGE 5W-20	44.1	8.1	-51	237
MOBIL 1 EXTENDED PERFORMANCE HIGH MILEAGE 5W-30	59.7	10	-54	249

Mobil 1™ FS 0W-40, 5W-30, 5W-40 and Mobil 1™ FS X2 5W-50 are advanced full synthetic engine oils formulated to deliver excellent overall performance for the latest gasoline engines and those diesel engines without diesel particulate filters (DPFs). These engine oils meet a wide variety of OEM specifications and are guaranteed to protect for 10,000 miles between oil changes.*

*Protects for 10,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 FS 0W-40	78.3	13.8	-42	230
MOBIL 1 FS 5W-30	71.8	12.2	-39	237
MOBIL 1 FS 5W-40	81	13.2	-40	241
MOBIL 1 FS X2 5W-50	112.5	18.6	-37	225

These products are only available in the US.

Mobil 1™ ESP 0W-30, 5W-30, Mobil 1™ ESP X2 0W-20 and Mobil 1™ ESP X4 0W-40 are advanced full synthetic engine oils designed to help prolong the life and maintain the efficiency of emission systems in new, emerging diesel and gasoline powered European vehicles. These engine oils are designed to keep your engine running like new, providing outstanding engine cleanliness and wear protection.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 ESP 0W-30	63	12	-51	-
MOBIL 1 ESP 5W-30	67.1	11.9	-42	234
MOBIL 1 ESP X2 0W-20	-	7.9	-51	235
MOBIL 1 ESP X4 0W-40	72	13.9	-54	230

PASSENGER VEHICLE LUBRICANTS

PASSENGER VEHICLE ENGINE OILS

Mobil 1™ C40 GT 0W-40 is an advanced full synthetic engine oil specifically engineered for high performing Porsche GT Engines. Mobil 1 C40 GT 0W-40 has been designed to protect the engine from wear in high temperature conditions and prevents deposits and sludge formation. It is the latest technology developed within the framework of the collaboration established with Porsche AG for over the last 30 years.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 GT 0W-40	199	72	-48	230

Mobil 1™ Supercar 0W-40 and 5W-50 are advanced full synthetic engine oils designed for high performance cars to provide exceptional cleaning power and wear protection, and deliver outstanding overall performance. Mobil 1 Supercar engine oils are proven in high performance North American sports cars and suitable for use in everyday driving and high performance track events.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 SUPERCAR 0W-40	69	12.9	-51	232
MOBIL 1 SUPERCAR 5W-50	111.8	18.1	-48	230

Mobil 1™ Turbo Diesel Truck 5W-40 is an advanced full synthetic diesel engine oil designed to provide exceptional performance in light- and heavy-duty diesel truck engines. This product is recommended for use in all super-high-performance diesel applications, including modern low-emission engine designs with Exhaust Gas Recirculation (EGR) and helps maintain outstanding performance at significantly higher temperatures than other high-performance diesel engine oils. Fully compatible with conventional oils.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 TURBO DIESEL TRUCK 5W-40	83	13.7	-48	234

Mobil 1 Racing™ 0W-30 and 0W-50 are advanced full synthetic formulas specifically designed to maximize horsepower under race conditions. The oils are developed specifically for racing engines and are not recommended for street use. These high performance, fully synthetic formulas are specially balanced for friction reduction and optimum horsepower with outstanding wear protection.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 RACING 0W-30	58	10.8	-57	-
MOBIL 1 RACING 0W-50	110	19.5	-57	-

Mobil 1™ Truck & SUV 0W-20, 5W-20 and 5W-30 are advanced full synthetic engine oils specially formulated for hardworking Trucks and SUVs that operate in tough conditions like towing and hauling. With proven performance in a 10,000 lb towing test*, these oils provide the extra protection needed to transfer heat away from critical engine parts. Proven to protect for 10,000 miles between oil changes - guaranteed

*Reference your vehicle owner's manual for information on your engine's maximum towing/hauling capacity.

**Protects for 10,000 miles or one year - whichever comes first.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 TRUCK & SUV 0W-20	42	8.2	-39	235
MOBIL 1 TRUCK & SUV 5W-20	46	8.3	-36	235
MOBIL 1 TRUCK & SUV 5W-30	57	10	-42	261

Mobil™ Full Synthetic 0W-20, 5W-20 and 5W-30 are full synthetic engine oils are formulated for vehicles that require a full synthetic motor oil and vehicles that are upgrading from conventional and synthetic blend oils. These oils provide guaranteed protection for 1.5X longer than our conventional and synthetic blends* and are tested and proven to provide long-lasting protection to help extend engine life.

*Guaranteed protection for 7,500 miles between oil changes compared to a guarantee of 5,000 miles or less on Mobil™-branded conventional and synthetic blend motor oils.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, Cleveland Open Cup °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL 1 FULL SYNTHETIC 0W-20	44.8	8.3	-45	-
MOBIL 1 FULL SYNTHETIC 5W-20	46	8.4	-42	-
MOBIL 1 FULL SYNTHETIC 5W-30	64.6	10.7	-45	229

Mobil™ Full Synthetic High Mileage 0W-20, 5W-20 and 5W-30 are full synthetic engine oils formulated for vehicles with over 75,000 miles that require a full synthetic motor oil and vehicles that are upgrading from conventional and synthetic blend oils. These oils provide guaranteed protection for 1.5X longer than our conventional and synthetic blends* and are tested and proven to provide long-lasting protection to help extend engine life.

*Guaranteed protection for 7,500 miles between oil changes compared to a guarantee of 5,000 miles or less on Mobil™-branded conventional and synthetic blend motor oils.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL FULL SYNTHETIC HIGH MILEAGE 0W-20	45.99	8.69	-42	235
MOBIL FULL SYNTHETIC HIGH MILEAGE 5W-20	49.8	8.81	-42	237
MOBIL FULL SYNTHETIC HIGH MILEAGE 5W-30	60.5	10.45	-42	239

These products are only available in the US.

Mobil Super™ 5W-20, 5W-30, 10W-30 and 10W-40 are synthetic blend oils formulated from high quality base stocks combined with modern performance additives to help protect critical engine parts from lubricant related failures for up to 5,000 miles or your vehicle's OEM recommended oil change interval, whichever is longer*. Mobil Super motor oils meet warranty requirements where an American Petroleum Institute (API) certified oil is specified.

*Limited Warranty protects for up to 5,000 miles or your vehicle's recommended oil change interval, whichever is longer.

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL SUPER 5W-20	49	8.3	-42	216
MOBIL SUPER 5W-30	63.2	10.3	-39	220
MOBIL SUPER 10W-30	65	10.3	-39	226
MOBIL SUPER 10W-40	113	15.6	-36	-

Mobil Special™ 5W-20, 5W-30, 10W-30, 10W-40 and 20W-50 motor oils are formulated from quality base stocks combined with modern performance additives to provide the engine protection and performance you expect under a wide variety of operating conditions. Mobil Special motor oils come with the Mobil Limited Warranty*. Mobil Special oils meet warranty requirements where an American Petroleum Institute (API) certified oil is specified.

*To learn more about the Mobil Special Limited Warranty, visit us at Mobil.us

	Kinematic Viscosity, ASTM D445		Pour Point, °C, ASTM D97	Flash Point, °C, ASTM D92
	cST at 40°C	cST at 100°C		
MOBIL SPECIAL 5W-20	49	8.3	-42	216
MOBIL SPECIAL 5W-30	63	10.3	-39	228
MOBIL SPECIAL 10W-30	64	10.3	-39	226
MOBIL SPECIAL 10W-40	113	15.7	-39	-
MOBIL SPECIAL 20W-50	167	19.5	-27	252

PASSENGER VEHICLE LUBRICANTS

PASSENGER VEHICLE DRIVE TRAIN FLUIDS

Mobil 1™ Synthetic ATF is a multi-vehicle, fully synthetic fluid designed to meet the demanding requirements of modern passenger vehicles.

	Kinematic Viscosity, ASTM D445		Pour Point,	Flash Point,	V.I.,
	cST at 40°C	cST at 100°C	°C, ASTM D97	°C, ASTM D92	ASTM D2270
MOBIL 1 SYNTHETIC ATF	36.3	7.4	-51	220	176

Mobil 1™ Synthetic Gear Lube LS is a supreme performance, synthetic, multi-purpose, SAE 75W-90 automotive gear lubricant designed to help meet the highest-level performance requirements of modern passenger vehicles in all types of operating conditions including limited slip applications, as well as, deliver outstanding power transfer performance. Compared to conventional hypoid gear lubricants, Mobil 1 Syn Gear Lube LS 75W-90 performs exceptionally over a wide range of temperatures.

	Kinematic Viscosity, ASTM D445		Pour Point,	Flash Point,	V.I.,
	cST at 40°C	cST at 100°C	°C, ASTM D97	°C, ASTM D92	ASTM D2270
MOBIL 1 SYNTHETIC GEAR LUBE LS	103	14.6	-39	150	146

Mobil 1™ Synthetic Gear Lube LS 75W-140 is a high performance, synthetic, multi-purpose, automotive gear lubricant designed to help meet the highest-level performance requirements of many modern passenger vehicles in all types of operating conditions, from mild to severe, including limited slip applications, as well as deliver outstanding power transfer performance. Compared to conventional hypoid gear lubricants, Mobil 1™ Syn Gear Lube LS 75W-140 performs exceptionally over a wide range of temperatures. It also helps to protect against thermal and oxidative degradation, wear and corrosion, viscosity loss associated with premature shearing.

	Kinematic Viscosity, ASTM D445		Pour Point,	Flash Point,	V.I.,
	cST at 40°C	cST at 100°C	°C, ASTM D97	°C, ASTM D92	ASTM D2270
MOBIL 1 SYNTHETIC GEAR LUBE LS 75W-140	170	24.4	-48	207	175

PASSENGER VEHICLE LUBRICANTS

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PASSENGER VEHICLE LUBRICANTS

PASSENGER VEHICLE TRANSMISSION FLUID

Mobil 1™ Synthetic LV ATF HP is an advanced full synthetic Automatic Transmission Fluid formulated from synthetic base oils and an advanced additive system.

	Kinematic Viscosity, ASTM D445		Pour Point,	Flash Point,	V.I.,
	cST at 40°C	cST at 100°C	°C, ASTM D97	°C, ASTM D92	ASTM D2270
MOBIL 1 SYNTHETIC LV ATF HP	27	5.7	-54	-	152

PASSENGER VEHICLE LUBRICANTS

MOTORCYCLE OILS

Mobil 1 Racing™ 4T is an advanced full synthetic formula designed specifically for motorcycles where clutch lubrication is also important. Mobil 1™ Racing 4T is designed for four-stroke motorcycle engines. This product helps to provide an excellent level of performance in today's high-performance motorcycles. It will help keep 4-stroke engines running clean protecting even under some of the most severe conditions.

	Kinematic Viscosity, ASTM D445		Pour Point,	Flash Point,	V.I.,
	cST at 40°C	cST at 100°C	°C, ASTM D97	°C, ASTM D92	ASTM D2270
MOBIL 1 RACING 4T 10W-40	85.9	13.4	-48	-	159

Mobil 1™ V-Twin 20W-50 is an advanced full synthetic formula designed specifically for motorcycles where clutch lubrication is also important.

	Kinematic Viscosity, ASTM D445		Pour Point,	Flash Point,	V.I.,
	cST at 40°C	cST at 100°C	°C, ASTM D97	°C, ASTM D92	ASTM D2270
MOBIL 1 V-TWIN 20W-50	172	20.8	-42	214	142

This product is only available in the US.

QUESTIONS?

CALL THE IMPERIAL
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Decoding Many Mobil Grease Product Names

Mobil	grease	XHP	222	Special
Master Brand	Product Brand	Product Family	ISO / NLGI	Identifier (Moly / Application)

Product Brands vs Thickener Type	Lith - Lithium Complex Polyrex - Polyurea Centaur - Calcium Sulfonate	Temp - Clay Lux - Lithium Grease - Multiple technologies
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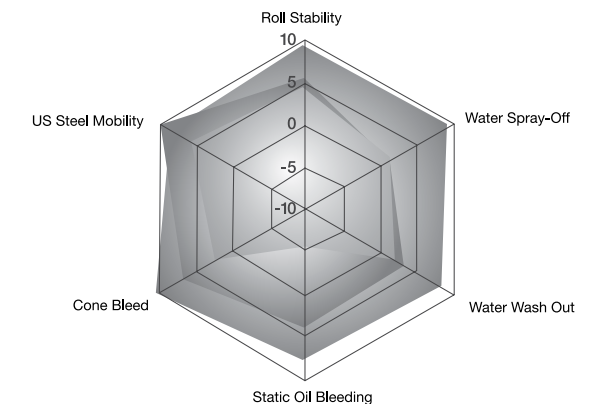
ISO / NLGI The first two numbers correspond to the first two numbers of the base oil *ISO Viscosity Grade* (e.g. 220). The last number corresponds to the *NLGI grade*.

Identifier Moly content: Special – 0.75 or 1%; Moly – 3%; Mine – 5%

Mobil Grease Product Families

Core Industrial Application Product Families:	Mobilith SHC, Mobilgrease XHP
Select Specialty Industrial Application Product Families:	Mobil SHC Polyrex, Mobil Polyrex, Mobil Centaur XHP
Core Commercial Vehicle Application (On/Off Highway) Product Families:	Mobil Delvac Xtreme, Mobilgrease XHP, Mobil Centaur
Core Personal Vehicle Installer Greases:	Mobil 1 Synthetic Grease, Mobilgrease XHP 222

Mobil Grease Balanced Performance



Mobilgrease XHP 222
Grease A
Grease S

10 = Excellent Performance
-10 = Poor Performance

GREASES

AVIATION GREASE

Mobilgrease™ 28 is a supreme performance, wide-temperature, antiwear grease designed to combine the unique features of a polyalphaolefin (PAO) synthetic base fluid with an organo-clay (non-soap) thickener. Its consistency is between an NLGI No. 1 and No. 2 grease. It offers outstanding performance over a wide temperature range. The wax-free nature of the synthetic base fluid, together with its high viscosity index compared to mineral oils, provide excellent low temperature pumpability, very low starting and running torque, and can help reduce operating temperatures in the load zone of rolling element bearings.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, AMS D1697 at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 41°C, % Loss
MOBILGREASE 28	Dark Red	1.5	Clay	29.3	307	1

Mobilgrease™ 33 is a high-performance lithium-complex grease designed for general-purpose aircraft use. Its consistency is between the NLGI grades 1 and 2. Mobilgrease 33 utilizes a 100% polyalphaolefin base oil and premium additives which ensure outstanding lubrication performance over a wide temperature range and operating conditions.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, Grease, 40°C	100°C	Dropping Point °C, ASTM D 2265	Water Wash-out, 1 Hr at 38 °C, wt%	Water Wash-out, 1 Hr at 79 °C, wt%
MOBILGREASE 33	Blue Green	1.5	Lithium Complex	12.5	3.2	255	3	6

Mobil™ Aviation Grease SHC™ 100 is a supreme performance synthetic grease which combines the unique features of a polyalphaolefin (PAO) synthetic base fluid with those of a high quality lithium complex soap thickener. The thickener system provides a high dropping point, excellent resistance to water wash, and a tenacious structural stability. The unique physical properties of the synthetic base oil, combined with selected additives, provide outstanding protection against wear, rust, corrosion, and high temperature degradation. The wax-free feature of the synthetic base oil allows for low-temperature mobility/pumpability and low starting and running torque values. Mobil Aviation Grease SHC 100 is the product of choice for aircraft wheel bearing applications.

	Color, Visual	NLGI Grade	Thickener Type	Viscosity Base Oil, cSt at 40°C	100°C	V.I. ASTM D2270
MOBIL AVIATION GREASE SHC 100	Red	2	Lithium Complex	100	14.5	144

GREASES

COMMERCIAL & INDUSTRIAL GREASES - CALCIUM SULFONATE

Mobil™ SHC Centaur™ Series multipurpose greases are designed to provide rust protection in water-saturated environments. With a balanced combination of water washout and water spray-off resistance, as well as excellent corrosion protection, these calcium sulfonate greases are particularly well-suited for the demanding requirements of steel mill, paper machine, and mining equipment.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL SHC CENTAUR 221	Tan	1	Calcium Sulfonate	220	301	2
MOBIL SHC CENTAUR 222	Tan	2	Calcium Sulfonate	220	-	-
MOBIL SHC CENTAUR 461	Tan	1.5	Calcium Sulfonate	460	>308	-
MOBIL SHC CENTAUR 1500	Tan	1.5	Calcium Sulfonate	1500	>308	2

Mobil™ SHC Centaur™ 101 Moly is a synthetic all-weather grease that offers excellent lubrication performance over a very wide operating temperature range. This product combines synthetic base oils with a calcium sulfonate thickener and molybdenum disulfide to provide outstanding protection in mining and construction equipment.

	Color, Visual	NLGI Grade	Thickener Type	Molybdenum Disulfide, Wt. %	Base Oil Viscosity, cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Wash-out, ASTM D 1264, 79 °C, % Loss
MOBIL SHC CENTAUR 101 MOLY	Gray-Black	1	Calcium Sulfonate	5	100	305	10

Mobil Centaur XHP™ Series greases are a premium family of greases formulated with advanced calcium sulfonate thickener technology. Mobil Centaur XHP 460 Series are calcium sulfonate thickener which carries both inherent rust protection and extreme pressure (EP) properties. Compared to conventional soap-base thickeners (i.e. lithium, aluminum, calcium soaps), the calcium sulfonate thickener used in Mobil Centaur XHP 460 Series excels in water saturated environments, providing rust protection between long re-lubrication intervals. The inherent EP properties exhibit great stability in the presence of water, allowing a balance between wear protection and resistance to corrosion. Mobil Centaur™ XHP 221 is a premium multipurpose grease formulated to lubricate rolling element bearings in industrial machinery operating at high temperatures under wet, heavily loaded conditions.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity cSt at 40°C	100°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss	V.I. ASTM D 2270
MOBIL CENTAUR XHP 221	Brown	1.5	Calcium Sulfonate	220	18.7	>308	1	94
MOBIL CENTAUR XHP 461	Brown	1	Calcium Sulfonate	460	30.8	275	1.0	96
MOBIL CENTAUR XHP 462	Brown	2	Calcium Sulfonate	460	30.8	275	0.5	96

GREASES

COMMERCIAL & INDUSTRIAL GREASES - CALCIUM SULFONATE

Mobil™ Centaur™ Moly Series is an advanced calcium sulfonate thickener technology. Unlike conventional soap-base thickeners (i.e. lithium, aluminum, and calcium soaps), the calcium sulfonate thickener does much more than simply impart consistency. It imparts excellent corrosion and water-resistance properties to the grease and has inherent extreme-pressure protection properties that enhance load-carrying ability.

	Color, Visual	NLGI Grade	Thickener Type	Molybdenum Disulfide, Wt. %	Base Oil Viscosity, cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss	Water Sprayoff, ASTM D 4049, 79 °C, % Loss
MOBIL CENTAUR MOLY 1	Gray-Black	1	Calcium Sulfonate	3	320	295	1	25
MOBIL CENTAUR MOLY 2	Gray-Black	2	Calcium Sulfonate	3	320	308	1	20

Mobil™ Centaur™ XHP 150 Mine Series greases are a premium family of greases formulated with advanced calcium sulfonate thickener technology and 5% molybdenum disulfide. The series is specifically designed for the lubrication of extra heavy-duty off-highway and mining equipment. The calcium sulfonate thickener carries both inherent rust protection and extreme pressure (EP) properties.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C	Molybdenum Disulfide, Wt. %	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL CENTAUR XHP 151 MINE	Gray-Black	1	Calcium Sulfonate	150	5	300	2
MOBIL CENTAUR XHP 152 MINE	Gray-Black	2	Calcium Sulfonate	150	5	300	1

Mobil™ Centaur™ XHP 462 Mine is a premium family of grease formulated with advanced calcium sulfonate thickener technology and 5% molybdenum disulfide. This product is specifically designed for the lubrication of extra heavy-duty off-highway and mining equipment. The calcium sulfonate thickener carries both inherent rust protection and extreme pressure (EP) properties. Compared to conventional soap-base thickeners (i.e. lithium, aluminum, calcium soaps), the calcium sulfonate thickener used in Mobil Centaur XHP 462 Mine excels in water saturated environments, providing longer re-lubrication intervals. The inherent EP properties exhibit great stability in the presence of water, allowing a balance between wear protection and resistance to corrosion.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C	Molybdenum Disulfide, Wt. %	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL CENTAUR XHP 462 MINE	Gray-Black	2	Calcium Sulfonate	460	5	>280	1

GREASES

COMMERCIAL & INDUSTRIAL GREASES - LITHIUM

Mobil™ Dynagear™ Series are premium performance open gear lubricants designed to provide outstanding protection of heavily loaded open gear sets exposed to a wide range of operating conditions. The Mobil Dynagear Series is based on lithium thickener technology, carefully chosen high performance additives and high viscosity semi-synthetic base fluids. These components synergistically provide a lubricant film that firmly adheres to lubricated surfaces. All members of the Mobil Dynagear Series are formulated solvent free and provide excellent dispensability without the use of chlorinated or hydrocarbon solvents.

	Color, Visual	NLGI Grade	Thickener Type	Dropping Point °C, ASTM D 2265	Base Oil Viscosity, cSt at 40°C	Molybdenum Disulfide, Wt. %
MOBIL DYNAGEAR 600 SL	Gray Black	0.5	Lithium	198	620	3
MOBIL DYNAGEAR 800 EXTRA	Gray Black	00.5	Lithium	175	680	3
MOBIL DYNAGEAR 2000	Gray Black	00.5	Lithium	193	2000	3

To learn more about the application of these products, go to [Industrial Gear Oils - Enclosed Gears](#) chapter.....21

Mobilux™ EP Series are a high performance family of four general-purpose industrial greases and two special-duty semi-fluid greases. These lithium hydroxystearate greases are formulated to provide extra protection against wear, rusting and water washout.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C	Dropping Point °C, ASTM D 2265
MOBILUX EP 0	Beige	0	Lithium	150	190
MOBILUX EP 1	Beige	1	Lithium	150	190
MOBILUX EP 2	Beige	2	Lithium	150	190
MOBILUX EP 023	Beige	000	Lithium	320	-

GREASES

COMMERCIAL & INDUSTRIAL GREASES - LITHIUM COMPLEX

Mobil[™] SHC[™] Grease 461 WT and 681 WT are specially formulated to lubricate yaw, pitch and main bearings of wind turbines. They are high performance synthetic lithium complex greases specially designed to exceed the demanding requirements of wind turbine applications at extreme temperatures. The advanced synthetic base fluid with its low traction coefficient provides excellent low temperature pumpability and very low starting and running torque.

	Visual, Color	NLGI Grade	Thickener Type	Base Oil Viscosity, AMS 1697 cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL SHC GREASE 461 WT	Beige	1.5	Lithium Complex	460	260	5
MOBIL SHC GREASE 681 WT	Beige	1.5	Lithium Complex	680	260	8

Mobil[™] SHC[™] Grease 460 WT is a superior performance lubricant especially suited to exceed the demanding requirements of wind turbine applications at extremes of temperature. The unique features of synthetic base fluids are combined with those of a high quality lithium complex thickener. The wax-free nature of synthetic fluids and the low coefficient of traction provide excellent low temperature pumpability and very low starting and running torque. The lithium complex thickener contributes excellent adhesion, structural stability and resistance to water. The grease has a high level of chemical stability and is formulated with special additive combinations to provide excellent protection against wear, rust and corrosion at high and low temperatures.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, AMS 1697 cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL SHC GREASE 460 WT	Red	1.5	Lithium Complex	460	255	10

Mobil[™] SHC[™] Grease 68 Moly is a synthetic all-weather grease that offers excellent lubrication performance over a very wide operating temperature range. The lithium complex soap technology used in Mobil SHC Grease 68 Moly contributes to long life through excellent oxidation stability, good shear stability, and high temperature protection.

Mobil SHC Grease 68 Moly is designed for use in central systems on heavy-duty mobile equipment. It is fortified with 5% Molybdenum disulphide, which is required by several major OEM's for their equipment. Mobil SHC Grease 68 Moly is designed to be dispensable in central grease systems at temperatures as low as -50°C (-58°F).

	Color, Visual	NLGI Grade	Base Oil Viscosity, cSt at 40°C	Molybdenum Disulfide, Wt. %	Dropping Point °C, ASTM D 2265	Lincoln Ventmeter, psi at -30°F	US Steel Mobility, g/min at -30°F
MOBIL SHC GREASE 68 MOLY	Gray-Black	0	68	5	223	331	25.8

Mobilith[™] SHC[™] Series greases are superior performance products designed for a wide variety of applications at extremes of temperature. They combine the unique features of synthetic base fluids with those of a high quality lithium complex thickener. The wax-free nature of synthetic fluids and the low coefficient of traction (compared with mineral oils), provide excellent low temperature pumpability and very low starting and running torque. These products offer the potential for energy savings and can reduce operating temperatures in the load zone of spherical roller and ball bearings. The lithium complex thickener contributes excellent adhesion, structural stability and resistance to water.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, ASTM D 445 cSt at 40°C	Dropping Point °C, ASTM D 2265
MOBILITH SCH 007	Red	00	Lithium Complex	460	-
MOBILITH SCH 100	Red	2	Lithium Complex	100	265
MOBILITH SHC 220	Red	2	Lithium Complex	220	265
MOBILITH SHC 221	Light Tan	1	Lithium Complex	220	265
MOBILITH SHC 460	Red	1.5	Lithium Complex	460	265
MOBILITH SHC 1500	Red	1.5	Lithium Complex	1500	265

Mobilith[™] SHC[™] PM greases are superior performance products designed specifically for severe paper machine applications, including extreme temperature environments and exposure to different qualities of water. Mobilith SHC PM greases combine the unique features of a synthetic base fluid with those of a high quality lithium complex thickener. The wax-free nature of the synthetic base fluid provides excellent low temperature pumpability and low starting and running torque compared to other non-synthetic oil products of the same viscosity. The high viscosity index of the synthetic base fluid ensures excellent film protection at high temperatures. The lithium complex thickener contributes excellent adhesion, structural stability and resistance to water. These properties are complemented by a special additive system to provide rust and corrosion resistance, wear protection, thermal/oxidative resistance and to enhance water resistance properties.

	Color, Visual	NLGI Grade	Thickener Type	Kinematic Viscosity, ASTM D445 cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBILITH SHC PM 220	Off-White	1.5	Lithium Complex	220	275	1
MOBILITH SHC PM 460	Off-White	1.5	Lithium Complex	460	275	7

GREASES

COMMERCIAL & INDUSTRIAL GREASES - LITHIUM COMPLEX

Mobil Epic[™] EP 102 and Mobil Epic[™] EP Moly are premium quality, semi-synthetic all-weather greases that offer excellent lubrication performance over a very wide operating temperature range. The lithium complex soap technology used in Mobil Epic brand greases contributes to long life through excellent oxidation stability, good shear stability, high temperature protection and water resistance. The additives in Mobil Epic greases provide excellent corrosion protection, potent wear protection and very high load carrying capacity. Mobil Epic greases are recommended for multi-service application in plain and anti-friction bearings, gears, slides and other applications where friction reduction and low wear are required. Mobil Epic greases have a long history of excellent performance in the toughest applications and under extreme temperature conditions.

	NLGI Grade	Color, Visual	Base Oil Viscosity, AMS 1697 cSt 40°C	Thickener Type	Dropping Point °C, ASTM D 2265	Molybdenum Disulfide, Wt. %
MOBIL EPIC EP 102	1.5	Red	130	Lithium Complex	260	-
MOBIL EPIC EP MOLY	1.5	Gray-Black	130	Lithium Complex	260	3

Mobilgrease XHP[™] 220 Series are extended service lithium complex greases intended for a wide variety of applications and severe operating conditions. These greases were designed to outperform conventional products by applying cutting edge, proprietary, lithium complex manufacturing technology. They are formulated to provide excellent high temperature performance with superb adhesion, structural stability and resistance to water contamination. These greases have a high level of chemical stability and offer excellent protection against rust and corrosion. These greases feature high dropping points and maximum recommended operating temperature of 140° C (284°F). Mobilgrease XHP 222 meets or exceeds the requirements of NLGI HPM+WR claim.

	Visual, Color	NLGI Grade	Thickener Type	Base Oil Viscosity, ASTM D445 cSt at 40°C	Molybdenum Disulfide, Wt. %	Dropping Point °C, ASTM D 2265
MOBILGREASE XHP 005	Dark blue	00	Lithium Complex	220	-	-
MOBILGREASE XHP 220	Dark blue	0	Lithium Complex	220	-	260
MOBILGREASE XHP 221	Dark blue	1	Lithium Complex	220	-	275
MOBILGREASE XHP 222	Dark blue	2	Lithium Complex	220	-	290
MOBILGREASE XHP 222 SPECIAL	Gray-black	2	Lithium Complex	220	0.75	290
MOBILGREASE XHP 223	Dark blue	3	Lithium Complex	220	-	290

Mobilgrease XHP[™] 460 Series are extended service lithium complex greases intended for a wide variety of heavy duty applications and operating conditions. These greases were designed to outperform conventional products by applying high performance proprietary lithium complex manufacturing technology. They are formulated to provide excellent high temperature performance with excellent adhesion, structural stability and resistance to water contamination. These greases have a high level of chemical stability and offer excellent protection against rust and corrosion.

	Color, Visual	NLGI Grade	Thickener Type	Kinematic Viscosity, cSt at 40°C		Molybdenum Disulfide, Wt. %	Dropping Point °C, ASTM D 2265
				ASTM D445	V.I ASTM D 2270		
MOBILGREASE XHP 461	Dark Blue	1	Lithium Complex	460	30.8	96	270
MOBILGREASE XHP 462	Dark Blue	2	Lithium Complex	460	30.8	96	300
MOBILGREASE XHP 461 MOLY	Grey-Black	2	Lithium Complex	460	30.8	96	300

Mobilgrease XHP[™] Mine Series products are specifically designed for the lubrication of extra heavy-duty off-highway and mining equipment. With a complete range of NLGI Grades, this series of lithium complex greases, which contain 5% molybdenum disulfide, can be utilized over a wide range of operating conditions and temperatures to improve productivity. The Mobilgrease XHP Mine series has excellent extreme pressure and anti-wear properties in addition to exceptional staying power, very good water wash-out, water spray-off, and extended service capabilities under harsh operating conditions. These extra heavy-duty service greases exhibit excellent structural stability. They will not corrode steel or copper bearing alloys and are compatible with conventional sealing materials.

	Color, Visual	NLGI Grade	Thickener Type	Kinematic Viscosity, ASTM D445 cSt at 40°C	Molybdenum Disulfide, Wt. %	Dropping Point °C, ASTM D 2265
MOBILGREASE 100 MINE	Gray-Black	0	Lithium Complex	100	5	200
MOBILGREASE 320 MINE	Gray-Black	0	Lithium Complex	320	5	270
MOBILGREASE 321 MINE	Gray-Black	1	Lithium Complex	320	5	270
MOBILGREASE 322 MINE	Gray-Black	2	Lithium Complex	320	5	270

Mobil Delvac[™] Xtreme Grease Series is a multi-purpose commercial vehicle grease family designed for high performance extreme-pressure protection. These products are formulated with an advanced thickener formulation for extended service capabilities, helping give peace of mind especially when re-application is difficult or limited.

	Color, Visual	NLGI Grade	Thickener Type	Kinematic Viscosity, ASTM D445 cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss	Molybdenum Disulfide, Wt. %
MOBIL DELVAC XTREME GREASE	Orange	2	Lithium Complex	320	305	6	-
MOBIL DELVAC XTREME GREASE MOLY 1	Gray-Black	1	Lithium Complex	150	270	12	3
MOBIL DELVAC XTREME GREASE MOLY 2	Gray-Black	2	Lithium Complex	320	295	6	3

Unirex[™] EP Series family of greases are high performance and extremely versatile long-life premium performance greases. Unirex grades have been formulated with high quality basestocks, proprietary high performance lithium complex thickener technology and an additive package designed to provide outstanding wear protection, excellent rust and corrosion protection and very good resistance to thermal, oxidative and structural degradation in high temperature applications. Unirex meets the challenges in demanding applications in many industries including transportation, manufacturing, construction, mining, logging, cement, marine and paper-making, where a grease must perform well in a multitude of different severe applications.

	Color, Visual	NLGI Grade	Thickener Type	Dropping Point °C, ASTM D 2265	Molybdenum Disulfide, Wt. %
UNIREX EP 0	Green	0.5	Lithium Complex	190	-
UNIREX EP 0 MOLY	Gray-Black	0.5	Lithium Complex	190	3
UNIREX EP 1	Green	1	Lithium Complex	220	-
UNIREX EP 1 MOLY	Gray-Black	1	Lithium Complex	280	3
UNIREX EP 2	Green	2	Lithium Complex	220	-
UNIREX LOTEMP EP	Green	1.5	Lithium Complex	260	-
UNIREX LOTEMP MOLY	Gray-Black	1.5	Lithium Complex	260	3

GREASES

COMMERCIAL & INDUSTRIAL GREASES - LITHIUM COMPLEX

Mobilgrease™ XTC is a high performance premium product designed for use in high-speed coupling applications. Mobilgrease XTC is formulated to provide low-bleed as well as high-temperature stability, properties critical to modern coupling lubrication and protection. The base oil and heavy duty additive package work to reduce friction wear from sliding tooth contact, providing rust and corrosion protection, as well as high temperature stability for this leading edge product.

Mobilgrease XTC meet or exceed the requirements of modern high-speed gear and grid design couplings including the AGMA CG-3, CG-2, and CG-1 specifications.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, ASTM D 445	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBILGREASE XTC	Dark Brown	1	Lithium Complex	680	279	

Unirex™ N Series greases are premium-quality, lithium-complex products suitable for high-temperature service in rolling-element bearings. These versatile greases can be used in a wide range of industrial applications and are particularly recommended for electric-motor lubrication.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, ASTM D 445	V.I. ASTM D 2270	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
UNIREX N 2	Green	2	Lithium Complex	115	95	210	3.7
UNIREX N 3	Green	3	Lithium Complex	115	95	210	3.5

Ronex™ MP is a lithium complex, mineral oil based multipurpose grease that can be used in a wide range of automotive and industrial applications. RONEX MP grease has good performance over a wide temperature range, and provides moderate load carrying, extreme pressure properties, water resistance, oxidation stability, and rust and corrosion protection. It is NLGI GC-LB qualified for use as a wheel bearing and chassis grease.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, AMS 1697	Dropping Point °C, ASTM D 2265
RONEX MP	Green	2	Lithium Complex	115	280

Mobilgrease™ HT Series are high performance Extreme Pressure greases with exceptional resistance to the water contamination conditions typical of steel mill, surface mining, and off-highway conditions. Additionally, Mobilgrease HTR, HTM and HTS are formulated with superior corrosion resistance. Mobilgrease HTM and HTR provide good water and corrosion resistance along with formulations more capable of providing good dispensing characteristics in central systems. The combination of the lithium complex soap with an advanced additive system provide high temperature performance properties.

	Visual, Color	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, AMS 1697	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBILGREASE HTR	Black	0.5	Lithium Complex	320	280	-
MOBILGREASE HTM	Black	1.5	Lithium Complex	320	280	5.5
MOBILGREASE HTS	Black	2	Lithium Complex	680	295	5.5

Mobilgrease™ CM Series products are a family of extra high performance extreme-pressure greases. Both products are manufactured with a proprietary high-temperature, lithium complex thickener system. They exhibit excellent resistance to softening under severe working, and provide good adhesion and cohesion. An extreme-pressure additive provides exceptional protection against wear, while additional additives enhance resistance to high-temperature oxidation and protection against rust.

	Color, Visual	NLGI Grade	Thickener Type	Kinematic Viscosity, cSt at 40°C, ASTM D 445	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBILGREASE CM-S	Orange	2	Lithium Complex	320	260	6
MOBILGREASE CM-W	Orange	1	Lithium Complex	150	260	12

GREASES

COMMERCIAL & INDUSTRIAL GREASES - OTHER THICKENER

Mobilgrease™ FM 101 and FM 222 are high performance multi-purpose products designed specifically for the lubrication of food processing machinery. Mobilgrease FM 101 and FM 222 are formulated with components meeting the requirements of CFR 178.3570, Chapter 21, and are NSF registered as H1 classified lubricants. The Mobilgrease FM 101 and FM222 are manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels product integrity are maintained.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C	Dropping Point °C, ASTM D 2265
MOBILGREASE FM 101	White	1	Aluminium Complex	100	260
MOBILGREASE FM 222	White	2	Aluminium Complex	220	260

Mobiltemp SHC™ 32 is a supreme performance antiwear grease primarily intended for high temperature applications. It combine the unique features of polyalphaolefin (PAO) synthetic base fluids with those of an organo-clay, non-soap thickener. The excellent resistance to thermal/oxidative degradation provided by the PAO base, coupled with the excellent high temperature structural stability and high dropping point of the clay thickener result in outstanding high temperature grease. The wax-free nature of the synthetic base fluid and its high viscosity index also provide superior low temperature lubrication as well as excellent film protection at high temperatures.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C	Dropping Point °C, ASTM D 2265
MOBILTEMP SHC 32	Red	1.5	Clay	32	308

Mobil™ Arox™ NM 000 is an extreme pressure, semi-fluid grease designed specifically to provide a mist-free, non-toxic condition for air-line lubricated pneumatic tools, including rock drills, jackhammers, drifters, wagon drills, chippers, tampers, riveters, impact tools and pavement breakers. Low-odour, friction-and-wear-reducing additives also have emulsifying properties and help protect metal surfaces from corrosion and rust.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C
MOBIL AROX NM 000	Amber	000	Calcium	140

Mobil™ Arapen RB 320 is a high performance long-life grease developed for the roller bearings of railroad car journals where no provision is provided for in-service re-lubrication. It is formulated with a mineral base fluid and a mixed lithium / calcium soap thickener. Mobil Arapen RB 320 grease has the high oxidation stability required to maintain good lubrication throughout extended periods of service or storage. It is highly resistant to chemical deterioration that might otherwise produce acids or deposits that are detrimental to long bearing life. Mobil Arapen RB 320 grease has exceptional ability to withstand shear, i.e. retain consistency after prolonged working, as in the churning action of an anti-friction bearing. This grease has been shown to have little effect on seal materials. Largely because of its special calcium-lithium-soap base, Mobil Arapen RB 320 grease has a high resistance to structural change in the presence of water. It is also inhibited to give protection against rusting.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, ASTM D 445	Dropping Point °C, ASTM D 2265
MOBIL ARPEN RB 320	Light Amber	1.5	Lithium Calcium	150	180

GREASES

COMMERCIAL & INDUSTRIAL GREASES - POLYUREA

Mobil™ SHC™ Polyrex EM Series high performance greases are specially formulated for electric-motor bearings. The advanced thickener formulation and proprietary manufacturing techniques provide improved bearing performance and protection for long electric motor life. Mobil SHC Polyrex 102 EM Series has demonstrated up to 40% improvement in bearing torque reduction in controlled laboratory testing(*).

The energy efficiency design is a trademark of Exxon Mobil Corporation.

(* Torque reduction relates solely to the performance of Mobil SHC Polyrex 102 EM when compared to conventional (mineral) reference grease of a similar viscosity grade in a deep groove ball bearing. The technology used allows up to 40 % torque reduction compared to the reference when tested in a bearing under controlled conditions. Efficiency improvements will vary based on operating conditions and equipment.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, ASTM D 445	Dropping Point °C, ASTM D 2265
MOBIL SHC POLYREX 102 EM	Green	2	Polyurea	85	253
MOBIL SHC POLYREX 103 EM	Green	3	Polyurea	85	269

Mobil™ SHC™ Polyrex Series of greases are specifically designed to improve your productivity by solving high temperature lubrication problems in both general industry and food processing applications. Developed using advanced Polyurea technology, these synthetic, polymer-enhanced greases bring a high temperature solution to the market while carrying a full NSF H1 registration.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, ASTM D 445	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss	Water Sprayoff, ASTM D 4049	
MOBIL SHC POLYREX 005	White	00	Polyurea	220	30	260	37	-
MOBIL SHC POLYREX 221	White	1	Polyurea	220	30	270	7	-
MOBIL SHC POLYREX 222	White	2	Polyurea	220	30	260	7	28
MOBIL SHC POLYREX 462	White	2	Polyurea	460	40	270	5	30

Mobil Polyrex™ EM Series super premium greases are specially formulated for electric-motor bearings. The advanced thickener formulation and proprietary manufacturing techniques provide improved bearing performance and protection for long electric motor life.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, cSt at 40°C, ASTM D 445	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL SHC POLYREX EM	Blue	2	Polyurea	115	260	1.9
MOBIL SHC POLYREX EM 103	Blue	3	Polyurea	115	270	0.8

GREASES

COMMERCIAL & INDUSTRIAL GREASES - POLYUREA

Mobil Polyrex™ EP 2 is a shear-stable polyurea grease with excellent extreme-pressure (EP) and load-carrying characteristics. The proprietary polyurea thickener system exhibits excellent resistance to oxidation and oil separation at operating temperatures as high as 160°C (320°F). With its outstanding high-temperature oxidation stability, load-carrying capability, shear stability, water resistance and wide operating temperature range, Mobil Polyrex EP 2 is an excellent multi-purpose grease for a wide array of industrial and construction applications.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, ASTM D445		Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss	Water Sprayoff, Loss, %, ASTM D4049
				cSt at 40°C	cSt at 100°C			
MOBIL POLYREX EP 2	Green	2	Polyurea	235	18.4	280	2.7	15

GREASES

MARINE GREASES

Mobil SHC Aware™ Grease Series are high performance synthetic products designed specifically for applications which are in sensitive environments and meet the U.S. Environmental Protection Agency (EPA) 2013 Vessel General Permit (VGP) and the EU Ecolabel requirements¹. These leading products are readily biodegradable and virtually non-toxic as they are formulated based on biodegradable saturated ester base oils and a lithium/calcium soap thickener. They do not emulsify and have excellent water wash and salt water corrosion resistance.

	NLGI Grade	Thickener Type	Viscosity of Oil, AMS 1697 cSt at 40°C	Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
MOBIL SHC AWARE GREASE EP 2	2	Lithium Calcium	320	150	3

GREASES

PASSENGER VEHICLE GREASE

Mobil 1™ Synthetic Grease is an advanced full synthetic grease formulated with a proprietary blend of high-performance synthetic base stocks and a lithium complex soap thickener. The thickener system provides a high dropping point, while additives impart excellent extreme-pressure properties and resistance to water wash, rust and corrosion. The proprietary blend of high-performance synthetic base stocks used in Mobil 1 Synthetic Grease gives reliable lubrication over wide temperature ranges -50 C (-58 F) to 246 C (475 F). Mobil 1 Synthetic Grease meets the requirements of the National Lubricating Grease Institute (NLGI) performance classification GC-LB. It is recommended for automotive applications at both high and low temperatures.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, ASTM D445		Dropping Point °C, ASTM D 2265	Water Washout, ASTM D 1264, 79 °C, % Loss
				cSt at 40°C	cSt at 100°C		
MOBIL 1 SYNTHETIC GREASE	Red	2	Lithium Complex	150		300	3

¹ Source: based on the EPA requirements for the 2013 Vessel General Permit (VGP), U.S. Environmental Protection Agency (EPA) requirements and EU EcoLabel regulations, [page 67](#).

Mobil™ Infinitec 152 super-long-life grease, recommended for a wide range of automotive and industrial applications, represents a major advance in lithium-complex grease technology. The proprietary technology of Mobil Infinitec 152 has set a new standard for lithium-complex grease high-temperature performance. Mobil Infinitec 152 dramatically out-performs conventional lithium-complex greases in high-temperature durability tests. The exceptional lubricating properties of Mobil Infinitec 152 have also been proven in extensive tests conducted by major bearing manufacturers. Mobil Infinitec 152 far exceeds the requirements of the ASTM D 4950 GC-LB grease classification for automotive wheel bearing and chassis applications.

	Color, Visual	NLGI Grade	Thickener Type	Base Oil Viscosity, AMS1967		Dropping Point °C, ASTM D 2265
				cSt at 40°C	cSt at 100°C	
MOBIL INFINITEC 152	Blue	1.5	Lithium Complex	148		>300

AVIATION PRODUCT LISTING BY APPLICATION

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AVIATION

HYDRAULIC FLUIDS

Mobil Aero™ HFA and HF.....24

AVIATION

JET OILS

Mobil Jet™ Oil II is a high performance aircraft-type gas turbine lubricant formulated with a combination of a highly stable synthetic base fluid and a unique chemical additive package. The combination provides outstanding thermal and oxidative stability to resist deterioration and deposit formation in both the liquid and vapour phases, as well as excellent resistance to foaming. The effective operating range of Mobil Jet Oil II is between -40°C (-40 °F) and 204 °C (400°F).

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBIL JET OIL II	27.6	5.1	-74.2	518

Mobil Jet™ Oil 254 is a third-generation, extra high performance, synthetic aircraft-type gas turbine lubricant engineered to meet the performance requirements for gas turbine engines used in commercial and military aircraft. This product is formulated from a specially prepared, hindered-ester base stock and fortified with a unique chemical additive package. The result is a product having outstanding thermal and oxidation stability that resists deterioration and deposit formation while maintaining the physical characteristics required by builder and military specifications. The physical properties of Mobil Jet Oil 254 are similar to those currently available, earlier-generation gas turbine lubricants. The effective operating range of the lubricant is between -40°C (-40 °F) and 232°C (450°F).

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 60° C/60° C
	cSt at 40°C	cSt at 100°C			
MOBIL JET OIL 254	26.4	5.3	-79.6	489.2	1.004

Mobil Jet™ Oil 387 has been developed to meet the performance requirements of both current and future, advanced gas turbine engines used in commercial and military service. Made from a specially prepared, ester base stock, Mobil Jet Oil 387 is fortified with a unique chemical additive package. The resulting lubricant has outstanding thermal and oxidation stability that resists deterioration and deposit formation. The physical properties of Mobil Jet Oil 387 conform to required builder and military specifications.

	Kinematic Viscosity, ASTM D445		Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92
	cSt at 40°C	cSt at 100°C		
MOBIL JET OIL 387	25.9	5.2	-70.6	532.4

MARINE PRODUCT LISTING BY APPLICATION

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CROSSHEAD ENGINE OILS

Mobilgard™ 540 is a high quality marine diesel engine cylinder oil for slow-speed crosshead engines and is specifically formulated for engines running on 0.50 percent sulphur fuels and is suitable for Ultra Low (<0.10%S) sulphur fuel operation in conjunction with Original Equipment Manufacturer (OEM) guidance. Designed to maximise all-round performance through use of a balanced formulation, Mobilgard 540 has a BN level of 40mg/KOH/g to sufficiently neutralise acid formulation whilst also keeping engines clean to minimise maintenance requirements. To ensure optimum lubricant distribution and oil film retention to help protect engine parts, Mobilgard 540 has an optimum viscosity of 20cSt at 100C.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g
MOBILGARD 540	20	98	-21	248	40

Mobilgard™ 540 AC is an MAN ES Category II and WinGD Dual Fuel/ LNG validated, premium quality, high-performance two-stroke marine diesel engine cylinder oil designed to effectively lubricate and deliver advanced cleanliness through effective deposit control across wide-ranging fuel and engine conditions.

Through the use of advanced formulation and detergency technologies in conjunction with a low Base Number (BN), Mobilgard 540 AC has demonstrated the ability to deliver advanced cleanliness and wear protection, whilst optimising cylinder oil feed-rates and effectively managing acid neutralisation in a range of engines and fuel applications.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D93	TBNmg KOH/g
MOBILGARD 540 AC	19	99	-30	207	40

Mobilgard™ 570 is a premium quality, high-performance marine diesel engine cylinder oil. The outstanding performance of Mobilgard 570 has been demonstrated at the elevated peak firing pressures and liner temperatures found in modern marine two stroke engines. It has an optimum viscosity of over 20 cSt. at 100°C and low volatility to ensure excellent lubricant distribution and oil film retention. Through the use of a balanced formulation for all-round performance, Mobilgard 570 has demonstrated the ability to minimise cylinder oil feed-rates whilst showcasing excellent cleanliness under sustained operation with fuel Sulphur levels down to 1.5%.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D93	TBNmg KOH/g
MOBILGARD 570	20	104	-9	256	70

Mobilgard™ 300 C is a premium quality system oil specially formulated to provide superior engine cleanliness, better wear protection and longer oil life when compared with conventional system oils. It is designed for use in two-stroke, crosshead marine diesel engines operating under severe conditions. This product has sufficient alkalinity to protect against strong acids which may find their way into the crankcase from the combustion of fuel sulphur, and it has enhanced load carrying ability in order to reduce wear in heavily loaded bearings and gears.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity 15.6C/15.6C	TBNmg KOH/g
MOBILGARD 300 C	11.9	98	-24	245	0.8665	9

TRUNK PISTON ENGINE OILS

Mobilgard™ 410 NC (No Chlorine) engine oil is a non-zinc and non-chlorine lubricant specifically formulated with a Progress Rail (EMD) and General Electric (GE) endorsed additive technology to meet requirements of heavily loaded diesel engines manufactured by EMD and used in marine applications.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	TBNmg KOH/g
MOBILGARD 410 NC	15.2	104	-24	266	11

Mobilgard™ 12 Series oils are high performance diesel engine oils developed for use in trunk piston engines operating on low sulphur distillate fuels in marine and industrial applications. They are formulated to have excellent resistance to oxidation and viscosity increase over a long period of service. They have outstanding water separating properties and provide excellent corrosion protection.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 15° C	TBNmg KOH/g
MOBILGARD 312	12.0	100	-15.8	510.8	0.896	15
MOBILGARD 412	14.5	100	-15.8	521.6	0.899	15
MOBILGARD 512	19.4	100	-15.8	539.6	0.903	15

Mobilgard™ M30 Series oils are premium, extra high performance 30 TBN engine oils designed for use in some of the most severe residual-fuelled medium-speed diesel applications found in marine and stationary power industries. These market leading trunk piston engine oils are formulated utilizing the latest in additive detergent technology and provide outstanding residual fuel compatibility characteristics for excellent engine cleanliness, especially in crankcase, camshaft areas, ring belt and piston undercrowns. They also demonstrate excellent high temperature oxidation and thermal stability, low volatility, and high load carrying properties and corrosion protection.

	Kinematic Viscosity, ASTM D445 cSt at 100°C	V.I. ASTM D 2270	Pour Point °C, ASTM D 97	Flash Point °C, ASTM D92	Spec. Gravity at 15° C	TBNmg KOH/g
MOBILGARD M330	12.0	100	21.2	471.2	0.907	30
MOBILGARD M430	14.0	100	21.2	482	0.907	30

Industrial Lubricants and Greases

Certain products within this chapter are subject to the following adhere to the definitions and regulations provided below.

Environmentally Acceptable Lubricants (EALs) definition: The term environmentally acceptable lubricant (EAL) is used to describe those lubricants that have been demonstrated to meet standards for biodegradability, toxicity and bioaccumulation potential that minimize their likely adverse consequences in the aquatic environment, compared to conventional lubricants. To read more please visit - https://www3.epa.gov/npdes/pubs/vgp_environmentally_acceptable_lubricants.pdf

U.S. Environmental Protection Agency (EPA) requirements

The Environmental Protection Agency (EPA) protects people and the environment from significant health risks, sponsors and conducts research, and develops and enforces environmental regulations. To read more please visit EPA website - <https://epa.gov/>

2013 Vessel General Permit (VGP)

The VGP provided National Pollutant Discharge Elimination System (NPDES) permit coverage nationwide for discharges incidental to the normal operation of commercial vessels greater than 79 feet in length. To read more please visit - <https://www.epa.gov/vessels-marinas-and-ports/vessels-vgp>

EU EcoLabel regulations

With both markets and consumers favouring eco-friendly products, being awarded the right to bear the EU Ecolabel gives manufacturers with proven sustainable actions (waste and emissions reductions, eco-friendly sourcing and supply chains, etc.) an edge over competitors.

Website for Eco- Label says the following:

An ecolabel is a voluntary environmental label for goods and/or services (generally referred to as “products”). These products must meet specific criteria related to a reduction in the overall environmental impact. The criteria depend on the product group. The EU Ecolabel is ruled by Regulation (EC) NO 66/2010 and fits the International Organisation for Standardization (ISO) definition for a Type 1 Ecolabel. This means the EU Ecolabel is awarded on a voluntary basis, based on multiple criteria, by an independent third party to indicate overall environmental preferability within a specific product category based on a life-cycle assessment.

See: [About the EU Ecolabel](#)

QUESTIONS?

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mobil.com/industrial | mobildelvac.com | mobil.com

VISCOSITY CONVERSION TABLE

Kinematic cSt 40 C	SUS	Engler	Redwood No. 1 Sec.	Kinematic cSt 40 C	SUS	Engler	Redwood No. 1 Sec.	Kinematic cSt 40 C	SUS	Engler	Redwood No. 1 Sec.
2	32.6	1.14	30.8	46	214	6.15	190	240	1112	32	990
3	36.0	1.22	33.2	50	233	6.65	207	250	1159	33	1030
4	39.1	1.31	35.8	55	256	7.25	228	260	1205	34	1070
5	42.5	1.40	38.4	60	279	7.9	248	270	1251	36	1110
6	45.7	1.48	41.0	65	302	8.6	268	280	1297	37	1150
7	49.0	1.56	43.7	70	325	9.25	286	290	1344	38	1190
8	52.0	1.65	46.5	75	349	9.85	307	300	1390	40	1230
9	55.7	1.74	49.2	80	372	10.5	329	315	1460	41	1300
10	59.0	1.83	52.1	85	395	11.2	349	330	1529	43	1350
11	62.5	1.92	55.2	90	418	11.8	370	350	1622	46	1440
12	66.2	2.02	58.4	95	442	12.5	390	370	1715	49	1520
13	70.0	2.12	61.6	100	465	13.2	410	390	1807	51	1600
15	77.5	2.32	68.2	110	511	14.5	450	410	1900	54	1690
17	85.5	2.55	75.2	120	558	15.8	490	430	1990	57	1770
19	94	2.77	82.8	130	605	17.1	530	450	2090	59	1850
21	100	3.00	90.4	140	649	18.4	570	470	2180	62	1930
23	111	3.23	98	150	695	19.7	620	490	2270	64	2010
25	120	3.46	106	160	742	21.0	660	500	2320	66	2050
28	133	3.83	117	170	788	22.5	700	550	2540	72	2260
30	142	4.09	125	180	834	24.0	740	600	2780	79	2460
33	155	4.46	137	190	881	25.0	780	650	3010	86	2670
35	164	4.71	145	200	927	26.0	820	700	3240	92	2880
38	178	5.10	157	210	973	28.0	860	750	3470	99	3080
40	187	5.35	166	220	1020	29.0	900	800	3700	105	3280
43	200	5.75	178	230	1066	30.0	940				

DEGREES API CORRESPONDING TO SPECIFIC GRAVITIES AT 60/60°F AND POUNDS PER GALLON

Degrees API	Specific Gravity (S.G.)	Pounds Gallons	Degrees API	Specific Gravity (S.G.)	Pounds Gallons	Degrees API	Specific Gravity (S.G.)	Pounds Gallons
1.36	1.065	8.870	14.4	0.970	8.078	30.2	0.875	7.286
1.99	1.060	8.829	15.5	0.965	8.036	31.1	0.870	7.244
2.62	1.055	8.787	15.9	0.960	7.995	32.1	0.865	7.203
3.26	1.050	8.745	16.7	0.955	7.953	33.0	0.860	7.161
3.91	1.045	8.704	17.5	0.950	7.911	34.0	0.855	7.119
4.56	1.040	8.662	18.2	0.945	7.870	35.0	0.850	7.078
5.21	1.035	8.620	19.0	0.940	7.828	36.0	0.845	7.036
5.88	1.030	8.578	19.8	0.935	7.786	36.9	0.840	6.994
6.55	1.025	8.537	20.6	0.930	7.745	38.0	0.835	6.952
7.23	1.020	8.495	21.5	0.925	7.703	39.0	0.830	6.911
7.91	1.015	8.453	22.3	0.920	7.661	40.0	0.825	6.869
8.60	1.010	8.412	23.1	0.915	7.620	41.0	0.820	6.827
9.30	1.005	8.370	24.0	0.910	7.578	42.1	0.815	6.786
10.00	1.000	8.328	24.8	0.905	7.536	43.2	0.810	6.744
10.70	0.995	8.287	25.7	0.900	7.494	44.3	0.805	6.702
11.4	0.990	8.245	26.6	0.895	7.453	45.4	0.800	6.661
12.2	0.985	8.203	27.5	0.890	7.411			
12.9	0.980	8.162	28.4	0.885	7.369			
13.6	0.975	8.120	29.3	0.880	7.328			

ISO VISCOSITY CLASSIFICATION SYSTEM

ISO Viscosity Grades	Mid-Point cSt @ 40°C	Viscosity Ranges cSt @ 40°C	
		Minimum	Maximum
2	2.2	1.98	2.42
3	3.2	2.88	3.52
5	4.6	4.14	5.06
7	6.8	6.12	7.48
10	10	9.00	11.0
15	15	13.5	16.5
22	22	19.8	24.2
32	32	28.8	35.2
46	46	41.4	50.6
68	68	61.2	74.8
100	100	90.0	110
150	150	135	165
220	220	198	242
320	320	288	352
460	460	414	506
680	680	612	748
1000	1000	900	1100
1500	1500	1350	1650

GREASE CONSISTENCY CLASSIFICATION: NATIONAL LUBRICATING GREASE INSTITUTE (NLGI)
AMERICAN STANDARD LUBRICATING GREASE CLASSIFICATION

GRADE	60-STROKE WORKED PENETRATION AT 77°F (25°C)
NLGI No. 000	445-475
NLGI No. 00	400-430
NLGI No. 0	355-385
NLGI No. 1	310-340
NLGI No. 2	265-295
NLGI No. 3	220-250
NLGI No. 4	175-205
NLGI No. 5	130-160
NLGI No. 6	85-115

The grades are defined as ranges of the values of the 60-stroke worked penetration, in tenths of millimeters, as determined by the ASTM Designation D 217, "Cone Penetration of Lubricating Grease."

ISO 4406 – OIL CLEANLINESS BY PARTICLE COUNTING

Cleanliness Code	Particles/ml	
	More Than	Up To
> 28	2500000	
28	1300000	2500000
27	640000	130000
26	320000	640000
25	160000	320000
24	80000	160000
23	40000	80000
22	20000	40000
21	10000	20000
20	5000	10000
19	2500	5000
18	1300	2500
17	640	1300
16	320	640
15	160	320
14	80	160
13	40	80
12	20	40
11	10	20
10	5	10
9	2,5	5
8	1,3	2,5
7	0,64	1,3
6	0,32	0,64
5	0,16	0,32
4	0,08	0,16
3	0,04	0,08
2	0,02	0,04
1	0,01	0,02
0	0	0,01

SAE VISCOSITY GRADES FOR ENGINE OILS

SAE Viscosity Grade	Low-Temperature (C°)	Low-Temperature (C°)	Low-Shear-Rate Kinematic Viscosity ⁽⁵⁾ (cSt) at 100°C	Low-Shear-Rate Kinematic Viscosity ⁽⁵⁾ (cSt) at 100°C	High-Shear-Rate Viscosity ⁽⁶⁾ (cP) at 150°C
	Cranking Viscosity ⁽³⁾ (cP) Max	Pumping Viscosity ⁽⁴⁾ (cP) Max with No Yield Stress ⁽⁴⁾	Min	Max	Min
0W	6,200 at -35	60,000 at -40	3.8	—	—
5W	6,600 at -30	60,000 at -35	3.8	—	—
10W	7,000 at -25	60,000 at -30	4.1	—	—
15W	7,000 at -20	60,000 at -25	5.6	—	—
20W	9,500 at -15	60,000 at -20	5.6	—	—
25W	13,000 at -10	60,000 at -15	9.3	—	—
20	—	—	5.6	< 9.3	2.6
30	—	—	9.3	< 12.5	2.9
40	—	—	12.5	< 16.3	2.9 ⁽⁷⁾
40	—	—	12.5	< 16.3	3.7 ⁽⁸⁾
50	—	—	16.3	< 21.9	3.7
60	—	—	21.9	< 26.1	3.7

(1) Note: 1cP = 1mPa*s; 1cSt = 1mm²/s

(2) All values are critical specifications as defined by ASTM D 3244

(3) ASTM D 5293

(4) ASTM D 4684; note that the presence of any yield stress detectable by this method constitutes a failure regardless of viscosity

(5) ASTM D 445

(6) ASTM D 4683, CEC L-36-A-90 (ASTM D 4741), or ASTM D 5481

(7) 0W-40, 5W-40, and 10W-40

(8) 15W-40, 20W-40, 25W-40, and 40

SAE J306 VISCOSITY GRADES FOR GEAR OILS

SAE Viscosity Grade	Maximum Temperature for BF Viscosity 150,000 cP	Kin Viscosity, 100°C	
		min. ⁽¹⁾	max.
70W	-55 C	4.1	—
75W	-40 C	4.1	—
80W	-26 C	7.0	—
85W	-12 C	11.0	—
80	—	7.0	<11.0
85	—	11.0	<13.5
90	—	13.5	<18.5
110	—	18.5	<24.0
140	—	24.0	<32.5
190	—	32.5	<41.0
250	—	41.0	—

⁽¹⁾Limits must also be met after testing in CEC L-45-T-93 Method C (20 hours)

TEMPERATURE CONVERSION TABLE

°C = (°F-32) * (5/9)

°F = °C (9/5) + 32

°C	°F	°C	°F	°C	°F	°C	°F
-100	-148.0	-34	-29.2	32	89.6	98	208.4
-98	-144.4	-32	-25.6	34	93.2	100	212
-96	-140.8	-30	-22.0	36	96.8	105	221
-94	-137.2	-28	-18.4	38	100.4	110	230
-92	-133.6	-26	-14.8	40	104.0	115	239
-90	-130.0	-24	-11.2	42	107.6	120	248
-88	-126.4	-22	-7.6	44	111.2	125	257
-86	-122.8	-20	-4.0	46	114.8	130	266
-84	-119.2	-18	-0.4	48	118.4	135	275
-82	-115.6	-16	3.2	50	122.0	140	284
-80	-112.0	-14	6.8	52	125.6	145	293
-78	-108.4	-12	10.4	54	129.2	150	302
-76	-104.8	-10	14.0	56	132.8	155	311
-74	-101.2	-8	17.6	58	136.4	160	320
-72	-97.6	-6	21.2	60	140.0	165	329
-70	-94.0	-4	24.8	62	143.6	170	338
-68	-90.4	-2	28.4	64	147.2	175	347
-66	-86.8	0	32.0	66	150.8	180	356
-64	-83.2	2	35.6	68	154.4	185	365
-62	-79.6	4	39.2	70	158.0	190	374
-60	-76.0	6	42.8	72	161.6	195	383
-58	-72.4	8	46.4	74	165.2	200	392
-56	-68.8	10	50.0	76	168.8	205	401
-54	-65.2	12	53.6	78	172.4	210	410
-52	-61.6	14	57.2	80	176.0	215	419
-50	-58.0	16	60.8	82	179.6	220	428
-48	-54.4	18	64.4	84	183.2	225	437
-46	-50.8	20	68.0	86	186.8	230	446
-44	-47.2	22	71.6	88	190.4	235	455
-42	-43.6	24	75.2	90	194.0	240	464
-40	-40.0	26	78.8	92	197.6	245	473
-38	-36.4	28	82.4	94	201.2	250	482
-36	-32.8	30	86.0	96	204.8	255	491

TEMPERATURE CONVERSION TABLE (CONTINUED)

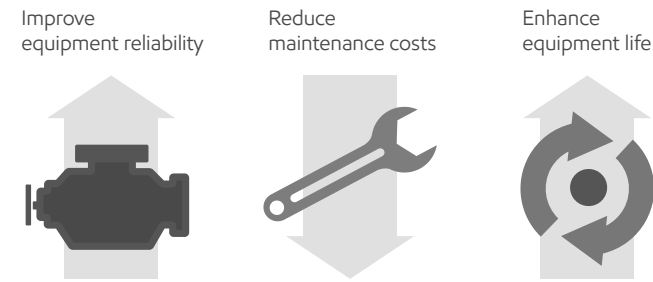
°C = (°F-32) * (5/9)

°F = °C (9/5) + 32

°C	°F	°C	°F	°C	°F	°C	°F
260	500	425	797	590	1094	755	1391
265	509	430	806	595	1103	760	1400
270	518	435	815	600	1112	765	1409
275	527	440	824	605	1121	770	1418
280	536	445	833	610	1130	775	1427
285	545	450	842	615	1139	780	1436
290	554	455	851	620	1148	785	1445
295	563	460	860	625	1157	790	1454
300	572	465	869	630	1166	795	1463
305	581	470	878	635	1175	800	1472
310	590	475	887	640	1184	805	1481
315	599	480	896	645	1193	810	1490
320	608	485	905	650	1202	815	1499
325	617	490	914	655	1211	820	1508
330	626	495	923	660	1220	825	1517
335	635	500	932	665	1229	830	1526
340	644	505	941	670	1238	835	1535
345	653	510	950	675	1247	840	1544
350	662	515	959	680	1256	845	1553
355	671	520	968	685	1265	850	1562
360	680	525	977	690	1274	855	1571
365	689	530	986	695	1283	860	1580
370	698	535	995	700	1292	865	1589
375	707	540	1004	705	1301	870	1598
380	716	545	1013	710	1310	875	1607
385	725	550	1022	715	1319	880	1616
390	734	555	1031	720	1328	885	1625
395	743	560	1040	725	1337	890	1634
400	752	565	1049	730	1346	895	1643
405	761	570	1058	735	1355	900	1652
410	770	575	1067	740	1364	905	1661
415	779	580	1076	745	1373	910	1670
420	788	585	1085	750	1382	915	1679

MobilSM Lubricant Analysis condition-monitoring fundamentals


In today's industry, condition-based maintenance practices have gained widespread acceptance. Key industry leaders increasingly realize that oil analysis is a critical component in any equipment monitoring program. A successful oil analysis program can help:



MobilSM Lubricant Analysis simplifies the lubrication monitoring process while producing reliable results that help guide maintenance professionals to the best decisions for their operations.

Mobil Lubricant Analysis provides informative reports on the condition of your equipment and lubricant, backed by the unmatched flexibility, expertise, and quality assurance of ExxonMobil.

- **Flexibility** — Perform many tasks more efficiently with Mobil Lubricant Analysis online capabilities.
- **Expertise** — Through global Original Equipment Manufacturer (OEM) relationships and hands-on lubrication experience, ExxonMobil supports your maintenance activities.
- **Quality** — Make decisions with confidence by leveraging the quality assurance offered by ExxonMobil.




Points to consider
Oil analysis


Oil analysis is an effective condition-monitoring tool. Additional equipment monitoring practices (inspections, vibration, operator logs, etc.) can be implemented to further enhance the value of your overall equipment reliability program.

What and when to sample

Oil analysis is most effective as a diagnostic tool when samples are taken from the appropriate equipment at scheduled intervals.

-  **1. Determine what to sample** — Consider the five general factors listed below when selecting equipment for the program, and refer to your OEM manual for guidance on recommended sample frequency.

Operating condition	Fluid age factor	Equipment age factor	Target sample results	Economic impact of failure
<ul style="list-style-type: none"> • High dirt/dust condition • High loads/pressures/speeds • High temperatures • Low temperatures • Chemical contamination • Wet condition 	<ul style="list-style-type: none"> • Hours/miles/kilometers since last change • Oxidation, contamination • Synthetic, premium, mineral 	<ul style="list-style-type: none"> • Hours/miles/kilometers • Rated life expectancy • Make and model number 	<ul style="list-style-type: none"> • Above control limits • Within control limits 	<ul style="list-style-type: none"> • Safety risk • Operational criticality • Repair costs • Downtime cost • Lost production • Spared unit

-  **2. Determine when to sample** — A regular pattern of sampling will establish a credible historical trend of equipment performance. If you don't have OEM-recommended sample interval guidelines, refer to the table below for general guidance in establishing initial sample frequency.

Industrial/plant equipment		Off-highway equipment		On-highway equipment	
Application	Frequency	Application	Frequency	Application	Frequency
Landfill gas engine	250 hours	Diesel engine	250 hours	Diesel engine	25,000 km or 15,000 mi
Generator engine	500 hours	Wheel motor	250 hours	Transmission	500 hrs, 40,000 km, or 25,000 mi
Natural gas engine	500 hours	Differential/gear	500 hours	Hydraulic system	500 hrs, 40,000 km, or 25,000 mi
Paper machine lube system	Monthly	Hydraulic system	500 hours		
Turbine	Monthly	Transmission	500 hours		
Compressor	3 months	Final drive	1,000 hours		
Gear drive	3 months				
Hydraulic system	3 months				

Selecting a MobilSM Lubricant Analysis service

Analysis options*

MobilSM Lubricant Analysis provides you with analysis options based on your equipment's application and the desired analysis service level.

These service level options use the 4-ounce (120 ml) bottle kit.

Service option	Description
Essential analysis ◆	Delivers the essential application-specific analysis to help you assess equipment wear, contamination, and oil condition
Enhanced analysis ◆◆	Delivers additional enhanced tests for more comprehensive analysis (e.g., hydraulic/circulating systems – particle count; particle quantifier index; or engines – base number, particle quantifier index)
Elite analysis ◆◆◆	Delivers a unique level of testing for limited applications that operate under demanding conditions (e.g., precision hydraulic applications)

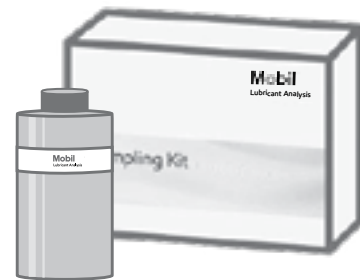


Extended service analysis options*

The criticality of maintaining operations may require an advanced level of analysis. These extended service analysis options (available only for select applications) are designed to support equipment reliability decisions.

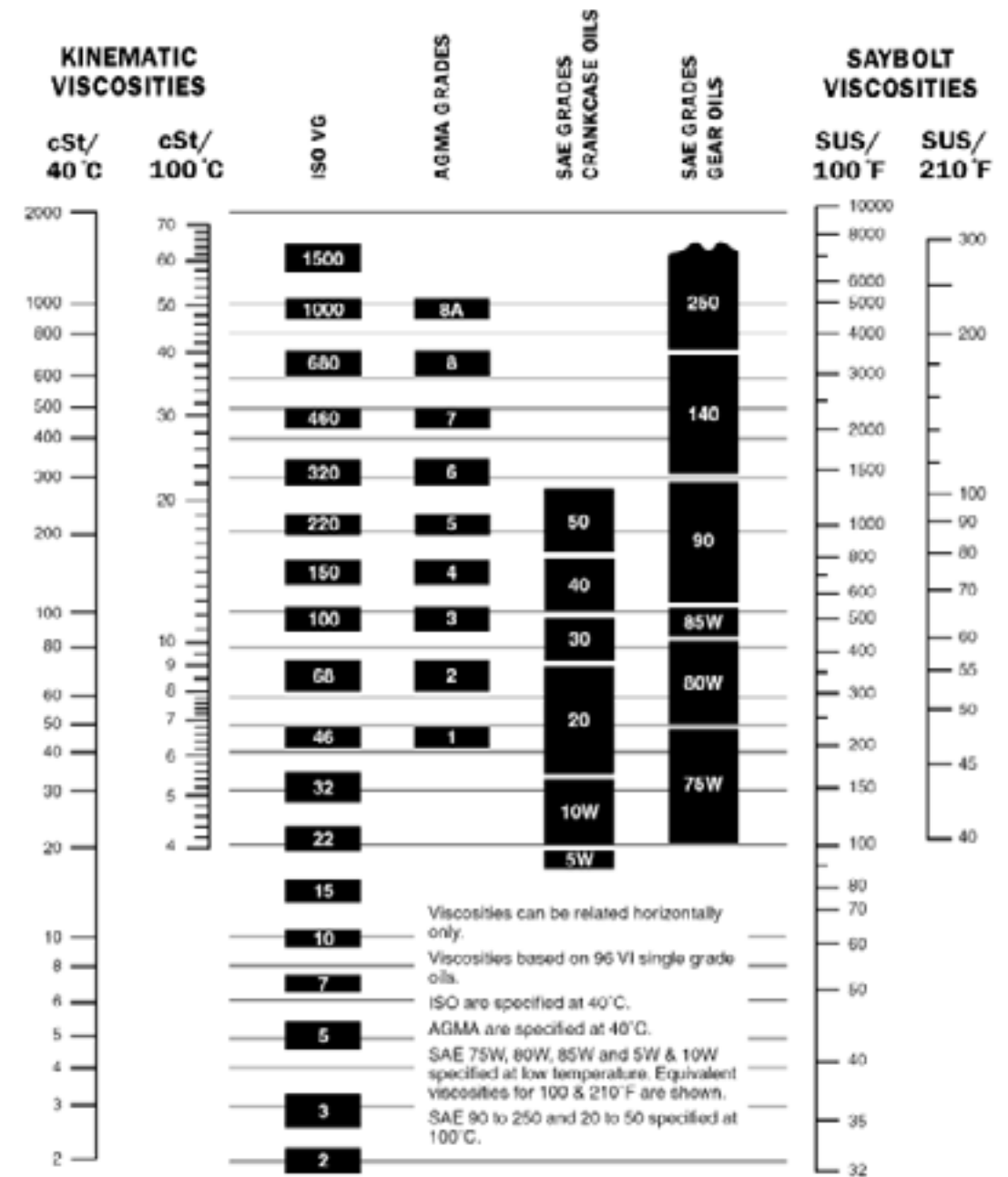
For extended service level options, use the metal 1 liter tin kit.

Service option	Description
Suitability for continued use (SCU) analysis	Performs additional tests to determine whether the in-service oil is suitable for continued use (e.g., rotation pressure vessel oxidation test [RPVOT], foam, demulsibility). Recommended on an annual frequency.
Varnish prediction analysis (VPA)	Performs additional tests to identify indicators of varnish in critical systems (e.g., membrane patch colorimetry [MPC], RULER – phenolic, and RULER – amine). Recommended on a quarterly or annual frequency.
Maximum service analysis (MSA)	Combines the analysis of suitability for continued use and varnish prediction analysis to help improve reliability and detect problems before they result in costly downtime or expensive repairs. Recommended on a quarterly or annual frequency.



* Analysis may vary by laboratory, product supplied, or oil condition. For more information about choosing the analysis service that best fits your needs, contact your ExxonMobil representative or visit mobilserv.mobil.com.

VISCOSITY CLASSIFICATION EQUIVALENTS



ISO VISCOSITY CLASSIFICATION SYSTEM

Many petroleum products are graded according to the ISO Viscosity Classification System, approved by the International Standards Organization (ISO). Each ISO viscosity grade number corresponds to the mid-point of a viscosity range expressed in centistokes (cSt) at 40°C. For example, a lubricant with an ISO grade of 32 has a viscosity within the range of 28.8–35.2, the midpoint of which is 32.

Rule-of-Thumb: The comparable ISO grade of a given product whose viscosity in SUS at 100°F is known can be determined by using the following conversion formula:

$$\text{SUS @ 100°F} \div 5 = \text{cSt @ 40°C}$$

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505 Quarry Park Blvd. SE
Calgary, Alberta T2C 5N1
www.imperialoil.ca