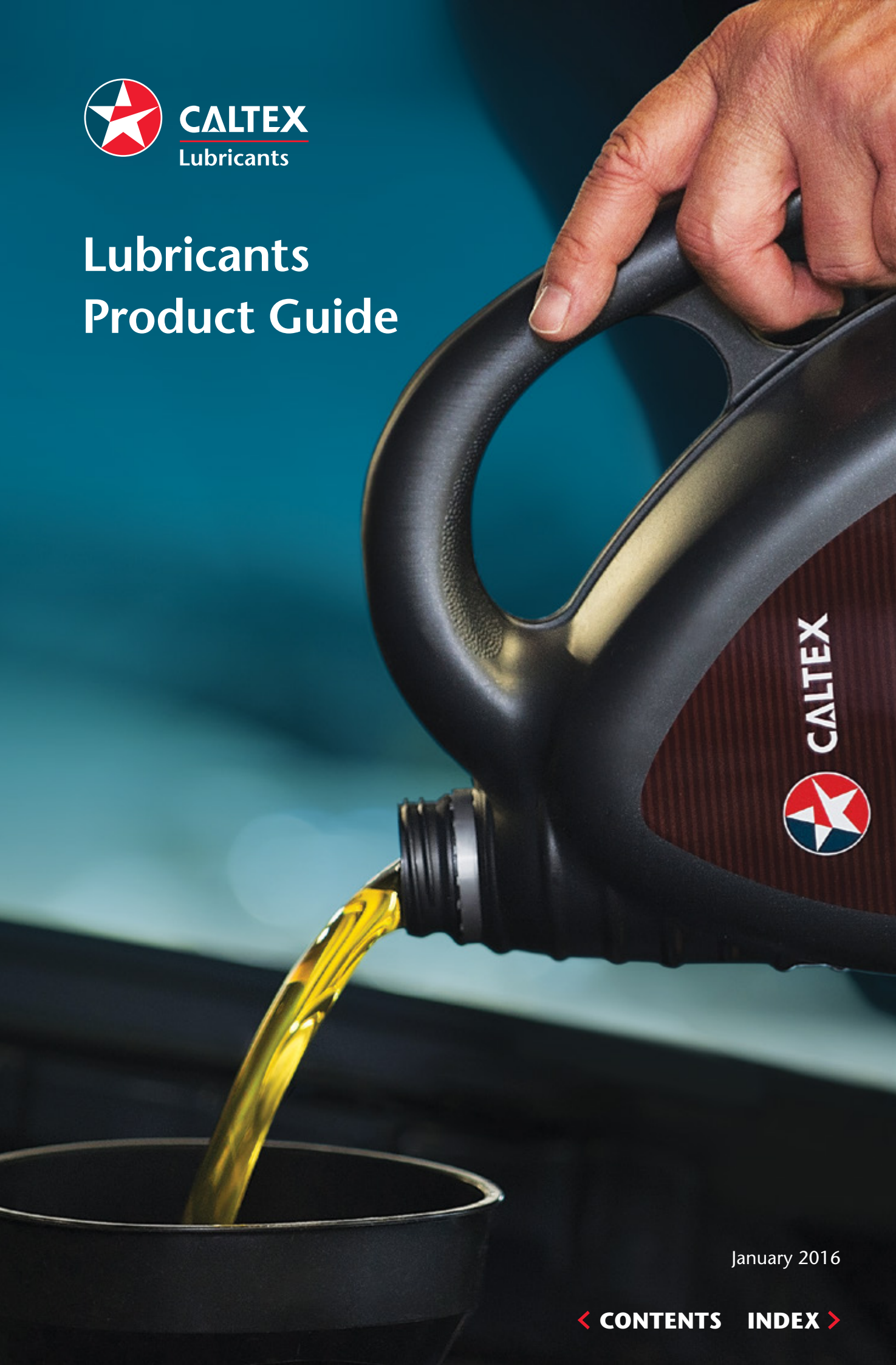




**CALTEX**  
Lubricants

# Lubricants Product Guide



January 2016

[< CONTENTS](#) [INDEX >](#)

---

For more detailed information please refer to the Product Data Sheets (PDS) available at [www.caltex.com.au](http://www.caltex.com.au)

For technical advice contact Caltex Technical Solutions on 1300 364 169

National Order Centre 1300 656 923

Information in this publication is accurate at the time of printing and reasonable care has been taken to ensure it is complete and accurate. However, this information is subject to change (such as when formulations or usage and storage information change). Please visit [www.caltex.com.au](http://www.caltex.com.au) for the latest product information. Independent advice should be sought before taking any action in reliance on the information in this publication, and Caltex Australia Limited and its related bodies corporate accept no liability for any reliance on this publication's content.

# Contents

<b>ENGINE OILS</b>	<b>2</b>	<b>GREASES</b>	<b>126</b>
Passenger Vehicle	5	Lithium Complex	129
Heavy-Duty Vehicle	12	Lithium	133
Small Engine and Leisure Craft	17	Aluminium Complex	138
Gas	19	Calcium and Calcium Complex	139
Railroad	23	Bentone Non-Melt	140
Marine Crosshead		Polyurea	141
– Cylinder Lubricant	24		
– System Oil	26		
Marine Trunk Piston Oil	27		
<b>DRIVELINE FLUIDS</b>	<b>30</b>	<b>CLEANERS</b>	<b>142</b>
Automatic Transmission Fluids	33	Degreasers	145
Gear Oils	37	Detergents	147
		Hand Cleaner	148
		Cotton Picker Cleaner	149
		Spill Absorbents	150
<b>AUTOMOTIVE SPECIALITIES</b>	<b>46</b>	<b>FUELS &amp; STARCARD</b>	<b>152</b>
		Petrol	155
		Diesel	157
		Other	162
		StarCard	163
<b>COOLANTS</b>	<b>52</b>		
<b>SPECIALTY LUBRICANTS</b>	<b>62</b>	<b>REFERENCE</b>	<b>164</b>
SL Lubricants	65	API Engine Service Classification	167
Talc® Lubricants	70	ILSAC Engine Service Classification	168
Railroad Specialty Greases and Lubricants	80	ACEA Engine Service Classification	168
		JASO Classifications	169
		Comparative Viscosity Classifications	171
		SAE Viscosity Classification	172
		API Gear Lubricant Classification	173
		Grease Compatibility Chart	174
		Typical Characteristics	
		– Cleaners	175
		– Coolants	175
		– Engine Oils	176
		– Fuels	177
		– Greases	178
		– Industrial Lubricants	180
		– Transmission Fluids	183
		Quick Guide to Havoline® Engine Oils	184
		Quick Guide to Delo® Engine Oils	185
<b>HYDRAULIC OILS</b>	<b>82</b>	<b>INDEX</b>	<b>186</b>
<b>INDUSTRIAL</b>	<b>94</b>		
Air Compressor Oils	97		
Compressor Oils – Refrigeration	101		
Food Grade Lubricants	102		
Gear Oils			
– Mineral	103		
– Synthetic	106		
Log End Sealant	108		
Machine and System Oils			
– Total Loss Uncompounded	109		
– Total Loss Compounded	110		
– Non-Throw Oils	111		
– Heat Transfer Oils	112		
Metalworking Fluids	113		
Mould Oils	114		
Petrolatum	116		
Rock Drill Oils	117		
Turbine Oils	118		
Transformer Oils	124		
Vacuum Pump Oils	125		

# ENGINE OILS





# ENGINE OILS

## PASSENGER VEHICLE

HAVOLINE® ProDS FULLY SYNTHETIC LE SAE 5W-40	5
HAVOLINE® ProDS FULLY SYNTHETIC C3 SAE 5W-30	5
HAVOLINE® ProDS FULLY SYNTHETIC SAE 0W-40	6
HAVOLINE® ULTRA R SAE 5W-30	6
HAVOLINE® ENERGY SAE 5W-30	7
HAVOLINE® ENERGY EF SAE 5W-30	7
HAVOLINE® ULTRA V SAE 5W-30	8
HAVOLINE® ProDS FULLY SYNTHETIC ECO 5 SAE 0W-20	8
HAVOLINE® ProDS FULLY SYNTHETIC ECO 5 SAE 5W-30	9
HAVOLINE® SYNTHETIC BLEND SAE 10W-40	9
HAVOLINE® PREMIUM PLUS SAE 10W-30	10
HAVOLINE® PREMIUM SAE 20W-50	10
MULTIGRADE ENGINE OIL SAE 20W-50	11

## HEAVY-DUTY VEHICLE

DELO® 400 XLE SYNTHETIC SAE 5W-30	12
DELO® 400 XLE SYNBLEND SAE 10W-30	12
DELO® 400 LE SAE 15W-40	13
DELO® 400 MULTIGRADE SAE 15W-40	13
DELO® XLE MULTIGRADE SAE 10W-40	14
DELO® XSD SYNTHETIC SAE 10W-40	14
DELO® GOLD ULTRA SAE 15W-40	15
DELO® SILVER SAE 30, 40	15
SUPER TRACTOR SAE 15W-40	16

## SMALL ENGINE AND LEISURE CRAFT

HAVOLINE® SUPER 2T	17
TWO-STROKE LAWN MOWER OIL	17
FOUR-STROKE LAWN MOWER AND STATIONARY ENGINE OIL SAE 30	18
SUPER OUTBOARD 3	18
TWO-STROKE BLENDING TABLE	18

## GAS

HDAX® 9200 LOW ASH GAS ENGINE OIL SAE 40	19
HDAX® 7200 LOW ASH GAS ENGINE OIL SAE 40	20
HDAX® 5200 LOW ASH GAS ENGINE OIL SAE 40	20
HDAX® 5300 MEDIUM ASH GAS ENGINE OIL SAE 40	21
HDAX® 6500 LFG GAS ENGINE OIL SAE 40	21
HDAX® 5500 LFG GAS ENGINE OIL SAE 40	21
HDAX® 5100 ASHLESS GAS ENGINE OIL SAE 40	22
GAS ENGINE OIL HD SAE 40	22
DELO® 400 NG SAE 15W-40	22

## RAILROAD

DELO® 710 LE SAE 20W-40	23
DELO® 6130 CFO SAE 40, 20W-40	23

## MARINE CROSSHEAD

– CYLINDER LUBRICANT	24
TARO® SPECIAL HT 55, 70 and 100	24
TARO® SPECIAL HT LS 40	25

## MARINE CROSSHEAD

– SYSTEM OIL	26
VERITAS 800 MARINE SAE 30	26

## MARINE TRUNK PISTON OIL

DELO® 1000 MARINE SAE 30, 40	27
TARO® 20 DP	27
TARO® 30 DP SAE 30, 40	28
TARO® 40 XL SAE 40	28
TARO® 50 XL SAE 40	29

Passenger Vehicle

HAVOLINE® ProDS FULLY SYNTHETIC LE  
PREMIUM SYNTHETIC ENGINE OIL

SAE 5W-40 | PRODUCT CODE: 3032

PACK SIZES: 1000L, 205L, 20L, 5L, 1L

Havoline® ProDS Fully Synthetic LE SAE 5W-40 will supersede Havoline® Fully Synthetic SAE 5W-40 in 2016.

Premium performance, multigrade motor oil meeting ACEA C3 and formulated from selected synthetic base fluids and matching additive technology for use in passenger car and light truck petrol and diesel engines. Reduced levels of metals and the elements phosphorus and sulfur provide durability of the latest low emission vehicle technologies. It is optimised to provide engine protection plus performance.



APPLICATIONS

- Naturally aspirated and turbocharged petrol and diesel engines in passenger cars and light trucks.
  - Low emission passenger car and light-duty vehicle engines fitted with latest catalytic converter (petrol) or Diesel Particulate Filter (DPF) technology.
  - Four-stroke petrol engines in portable power equipment where the manufacturer recommends conventional passenger car motor oils.
- Not recommended for use in gas-fuelled (CNG or LPG) engines, or in motorcycle engines.

PERFORMANCE STANDARDS

- API SN (licensed)
- ACEA C3
- ACEA A3/B3, A3/B4 (suitable for use)
- BMW LongLife-04 approval (pending)
- General Motors dexos2™ (suitable for use)
- Mercedes-Benz 229.51 approval (pending)
- Porsche oil category A40 approval (pending)
- Renault RN 0700/0710 performance (meets)

HAVOLINE® ProDS FULLY SYNTHETIC C3  
PREMIUM SYNTHETIC ENGINE OIL

SAE 5W-30 | PRODUCT CODE: 3042

PACK SIZES: Bulk, 1000L, 205L, 20L, 5L, 1L

Havoline® ProDS Fully Synthetic C3 SAE 5W-30 will supersede Havoline® Fully Synthetic C3 SAE 5W-30 in 2016.

Premium performance, multigrade motor oil formulated from selected synthetic base fluids and matching additive technology for use in passenger car and light truck petrol and diesel engines. It is formulated with reduced levels of metals and the elements phosphorus and sulfur to provide maximum durability of the latest low emission vehicle technologies.



APPLICATIONS

- Naturally aspirated and turbocharged petrol and diesel engines in passenger cars and light trucks.
  - Low emission passenger car and light-duty vehicle engines fitted with latest catalytic converter (petrol) or Diesel Particulate Filter (DPF) technology.
  - Four-stroke petrol engines in portable power equipment where the manufacturer recommends conventional passenger car motor oils.
- Not recommended for use in gas-fuelled (CNG or LPG) engines, or in motorcycle engines.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- API SN (licensed)
- ACEA C3
- ACEA A3/B3, A3/B4 (suitable for use)
- BMW Longlife-04 oil
- General Motors dexos2™ (suitable for use)
- Mercedes Benz 229.51, 229.31

**HAVOLINE® ProDS FULLY SYNTHETIC 0W-40**  
PREMIUM SYNTHETIC ENGINE OIL

**SAE 0W-40 | PRODUCT CODE: 3293****PACK SIZE: 205L**

*Havoline® ProDS Fully Synthetic SAE 0W-40 will supersede Havoline® Fully Synthetic E SAE 0W-40 in 2016.*

Premium performance, multigrade motor oil formulated from balanced blend of PAO with other synthetic base fluids and matching additive technology for use in passenger car and light truck petrol and diesel engines.



**APPLICATIONS**

- Naturally aspirated and turbocharged petrol and diesel engines in passenger cars and light trucks.
  - Low emission passenger car and light-duty vehicle engines fitted with latest catalytic converter (petrol) or Diesel Particulate Filter (DPF) technology.
  - Four-stroke petrol engines in portable power equipment where the manufacturer recommends conventional passenger car motor oils.
- Specially designed for high-performance gasoline and diesel engines in passenger cars, in particular those of European design.
  - Suitable for use in naturally aspirated and turbocharged gasoline in passenger cars and light trucks where API SN or ACEA A3/B4 is required.

Not recommended for use in gas-fuelled (CNG or LPG) engines, or in motorcycle engines.

See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

- API SN (licensed)
- ACEA A3/B3 and A3/B4 (meets)
- BMW Longlife-01 oil (approval pending)
- Mercedes Benz 229.5 (approval pending), 229.3 (suitable for use)
- VW Standard 502 00 and 505 00 (approval pending)

**HAVOLINE® ULTRA R**  
PREMIUM SYNTHETIC ENGINE OIL FOR SELECTED  
EUROPEAN AND JAPANESE VEHICLES

**SAE 5W-30 | PRODUCT CODE: 3275****PACK SIZES: 208L, 20L**

Havoline® Ultra R is a synthetic SAE 5W-30 multigrade engine lubricant formulated with synthetic base stocks and advanced technology additives offering low levels of sulphated ash, phosphorus and sulphur (low SAPS). Havoline® Ultra R is suitable for use in naturally aspirated and turbocharged gasoline and diesel passenger cars and light-duty commercial diesel engines. Havoline® Ultra R has been designed to perform under severe operating conditions as defined by the engine manufacturer.



**APPLICATIONS**

- Havoline® Ultra R is recommended for use in naturally aspirated and turbocharged car and light van diesel and gasoline engines equipped with modern Three-Way Catalysts (TWC) and Diesel Particulate Filters (DPFs) requiring low SAPS oils.

**PERFORMANCE STANDARDS**

- ACEA C4 (meets), A3/B4 and A3/B3 (suitable for use)
- Mercedes Benz MB approval 226.51
- Renault RN 0720 (approved)



HAVOLINE® ENERGY  
PREMIUM SYNTHETIC ENGINE OIL

SAE 5W-30 | PRODUCT CODE: 3192

PACK SIZES: 208L, 20L

*Super GT-f will supersede Havoline® Energy in 2016.*

Friction-modified multigrade motor oil formulated from synthetic base oils and high-performance additive technology for use in modern passenger car and light truck petrol and diesel engines where oils of performance up to and including ACEA A1/B1 and A5/B5 are recommended. It is optimised to provide engine protection and fuel economy.



APPLICATIONS

- Petrol and light-duty diesel engines in modern passenger cars and light commercial vehicles.
- Particularly suitable for use in engines where oils meeting Ford specifications WSS-M2C913-D, WSS-M2C913-C, WSS-M2C913-B and WSS-M2C-913A are specified.

PERFORMANCE STANDARDS

- ACEA A1/B1, A5/B5
- API SL/CF
- Ford WSS-M2C913-D (approved), WSS-M2C-913-C (approved)
- Renault RN 0700 (approved)

HAVOLINE® ENERGY EF  
PREMIUM SYNTHETIC ENGINE OIL FOR SELECTED VEHICLES

SAE 5W-30 | PRODUCT CODE: 3278

PACK SIZES: 208L, 20L

Synthetic engine lubricant designed with an advanced technology additive system formulated to meet ACEA C1 and Ford WSS-M2C934B engine lubrication requirements. It is suitable for petrol and diesel passenger cars and light-duty commercial diesel engines. Havoline® Energy EF is a low SAPS oil compatible with Diesel Particulate Filters (DPFs) and Three-Way Catalysts (TWCs).



APPLICATIONS

- Car and light van diesel and petrol engines and is catalyst compatible with Diesel Particulate Filters (DPFs) and Three-Way Catalysts (TWCs).
  - Vehicles requiring a Ford WSS-M2C934-B approved engine oil.
- Havoline® Energy EF is unsuitable for some engines. Consult owner's manual or handbook if in doubt.

PERFORMANCE STANDARDS

- ACEA C1
- Ford WSS-M2C934B (approved)

**HAVOLINE® ULTRA V**  
PREMIUM SYNTHETIC ENGINE OIL FOR  
MODERN EUROPEAN VEHICLES

**SAE 5W-30 | PRODUCT CODE: 3029****PACK SIZES: 949L, 205L, 5L**

Enhanced performance, multigrade motor oil formulated from selected synthetic base fluids and high-performance additive technology for use in certain passenger car and light truck gasoline and diesel engines. It is formulated with reduced levels of metals and the elements phosphorus and sulfur to provide maximum durability of the latest low emission vehicle technologies. It is optimised to provide effective engine protection plus performance.



APPLICATIONS		PERFORMANCE STANDARDS
<ul style="list-style-type: none"><li>• Naturally aspirated and turbocharged gasoline and diesel engines in passenger cars and light trucks.</li><li>• Low emission passenger car and light-duty vehicle engines fitted with latest catalytic converter (gasoline) or Diesel Particulate Filter (DPF) technology.</li></ul>	<ul style="list-style-type: none"><li>• Particularly suited for use in the latest Volkswagen and Audi gasoline and diesel engines.</li></ul> <p>Not recommended for use in gas-fuelled (CNG or LPG) engines, or in motorcycle engines.</p>	<ul style="list-style-type: none"><li>• ACEA C3 (self-certified)</li><li>• BMW Longlife-04 Oil (approved)</li><li>• Mercedes Benz 229.31 (approved), 229.51 (approved)</li><li>• Porsche oil category C30 (approved)</li><li>• Volkswagen Standard 504 00 and 507 00 (approved)</li></ul>

**HAVOLINE® ProDS FULLY SYNTHETIC ECO 5**  
HIGH-PERFORMANCE, FUEL CONSERVING ENGINE OIL

**SAE 0W-20 | PRODUCT CODE: 3119****PACK SIZES: 205L, 20L**

*Havoline® ProDS Fully Synthetic ECO 5 SAE 0W-20 will supersede Havoline® ECO 5 SAE 0W-20 in 2016.*

Energy conserving, multigrade petrol engine oil formulated with synthetic base oils for use in passenger car and light truck engines requiring low-viscosity, dexos1™, ILSAC GF-5 or API SN performance lubricants.



APPLICATIONS		PERFORMANCE STANDARDS
<ul style="list-style-type: none"><li>• Naturally aspirated and turbocharged petrol engines in passenger cars and light trucks where ILSAC GF-5, API SN or earlier ILSAC or API "S" performance categories are specified.</li><li>• Passenger car and light truck engines operating on petrol-ethanol blends up to and including E85 (85% ethanol) where ILSAC GF-5, API SN or earlier ILSAC or API "S" performance categories are specified.</li></ul>	<ul style="list-style-type: none"><li>• Where GM dexos1™ performance is specified in naturally aspirated and turbocharged petrol engines in passenger cars and in light truck gasoline engines.</li></ul> <p>Not recommended for use in engines that require ACEA-classified oils, gas-fuelled (CNG or LPG) engines, diesel engines, or motorcycle engines.</p>	<ul style="list-style-type: none"><li>• API SN, API Resource Conserving (licensed)</li><li>• Chrysler MS-6395</li><li>• Ford WSS-M2C945-A</li><li>• General Motors dexos1™</li><li>• ILSAC GF-5 (licensed)</li></ul>

## HAVOLINE® ProDS FULLY SYNTHETIC ECO 5

### HIGH-PERFORMANCE, FUEL CONSERVING ENGINE OIL

**SAE 5W-30 | PRODUCT CODE: 3120**

**PACK SIZES: 205L, 20L**

*Havoline® ProDS Fully Synthetic ECO 5 SAE 5W-20 will supersede Havoline® ECO 5 SAE 5W-30 in 2016.*

Energy conserving, multigrade petrol engine oil formulated with synthetic base oils for use in passenger car and light truck engines requiring low-viscosity, GM dexos1™, ILSAC GF-5 or API SN performance lubricants under all operating conditions.



#### APPLICATIONS

- Naturally aspirated and turbocharged petrol engines in passenger cars and light trucks where ILSAC GF-5, API SN or earlier ILSAC or API "S" performance categories are specified.
- Passenger car and light truck engines operating on petrol-ethanol blends up to and including E85 (85% ethanol) where ILSAC GF-5, API SN or earlier ILSAC or API "S" performance categories are specified.
- Where GM dexos1™ performance is specified in naturally aspirated and turbocharged petrol engines in passenger cars and in light truck gasoline engines.
- Not recommended for use in engines that require ACEA-classified oils, gas-fuelled (CNG or LPG) engines, diesel engines, or motorcycle engines.

#### PERFORMANCE STANDARDS

- AAPI SN, API Resource Conserving (licensed)
- Chrysler MS-6395
- Ford WSS-M2C946-A
- General Motors dexos1™
- ILSAC GF-5 (licensed)

## HAVOLINE® SYNTHETIC BLEND

### HIGH-PERFORMANCE, SYNTHETIC-BLEND ENGINE OIL

**SAE 10W-40 | PRODUCT CODE: 3031**

**PACK SIZES: Bulk, 205L, 20L, 5L, 1L**

High-performance, multigrade motor oil formulated from a special blend of selected mineral oils, synthetic base fluids and matching additive technology for use in passenger car and light truck petrol and diesel engines under a wide range of operating conditions. It is optimised to provide full engine protection plus superior performance as compared with motor oils formulated with conventional mineral oils.



#### APPLICATIONS

- Naturally aspirated and turbocharged petrol engines in passenger cars and light commercial vehicles that require SAE 10W-40 viscosity grade oils up to and including API SN or ACEA A3/B4 performance.
- Naturally aspirated and turbocharged diesel engines in passenger cars and light commercial vehicles that require SAE 10W-40 viscosity grade oils up to and including ACEA A3/B4 performance.
- Not recommended for use in petrol or diesel engines that require ACEA A1/B1, A5/B5 or C-series oils, or in any motorcycle engines.

#### PERFORMANCE STANDARDS

- API SN/CF
- ACEA A3/B4, A3/B3
- Mercedes Benz 229.3
- Volkswagen 502 00, 505 00

During 2016 this product will be revised to obtain Volkswagen 502 00 505 00 and Renault RN 0710/0700 approval.

**HAVOLINE® PREMIUM PLUS**  
HIGH-PERFORMANCE ENGINE OIL

**SAE 10W-30** | **PRODUCT CODE:** 2967 **PACK SIZES:** Bulk, 1000L, 205L, 20L, 5L, 1L

Shear stable, multigrade engine oil for use in passenger car and light truck petrol, gas and dual-fuel engines requiring API SM/CF or lower, or ILSAC GF-4 or lower performance lubricants.



**APPLICATIONS**

- Naturally aspirated and turbocharged petrol engines in passenger cars and light commercial vehicles.
  - Naturally aspirated and turbocharged spark ignition engines fuelled with CNG, LPG or fitted with gas/petrol dual-fuel systems in passenger cars and light commercial vehicles.
  - Four-stroke petrol engines in portable power equipment where the manufacturer recommends conventional passenger car motor oils.
  - Industrial lift trucks fitted with CNG or LPG fuelled engines.
- Not recommended for use in engines that require ACEA-classified oils or in motorcycle engines.

**PERFORMANCE STANDARDS**

- API SM/CF with Energy Conserving
- ILSAC GF-4

**HAVOLINE® PREMIUM**  
ENGINE OIL FOR OLDER VEHICLES

**SAE 20W-50** | **PRODUCT CODE:** 1320 **PACK SIZES:** Bulk, 205L, 20L, 5L, 1L

Highly shear stable, multigrade petrol engine oil formulated from selected base fluids for use in passenger car and light truck engines requiring API SL, SJ or SH performance lubricants and where SAE 20W-50 viscosity grade is acceptable.



**APPLICATIONS**

- Naturally aspirated petrol engines in passenger cars and light commercial vehicles.
  - Four-stroke petrol engines in portable power equipment where the manufacturer recommends conventional passenger car motor oils.
- Not recommended for use in engines that require ACEA-classified oils, in turbocharged engines, in CNG or LPG fuelled engines, in any diesel engines or in motorcycle engines.

**PERFORMANCE STANDARDS**

- API SL/CF

MULTIGRADE ENGINE OIL

MULTIPURPOSE ENGINE OIL

SAE 20W-50 | PRODUCT CODE: 1459

PACK SIZES: 205L, 20L, 4L, 1L

High quality engine oil for use in older passenger car and light-duty commercial vehicle engines where API SG or lower performance lubricants are required and SAE 20W-50 viscosity is acceptable.



APPLICATIONS

- Naturally aspirated petrol engines in passenger cars and light commercial vehicles.
  - Four-stroke petrol engines in portable power equipment where the manufacturer recommends conventional passenger car motor oils.
- Not recommended for use in engines that require ACEA-classified oils, in turbocharged engines, in CNG or LPG fuelled engines, in any diesel engines or in motorcycle engines.

PERFORMANCE STANDARDS

- API SG/CD

Heavy-Duty Vehicle

DELO® 400 XLE SYNTHETIC  
PREMIUM SYNTHETIC DIESEL ENGINE OIL

SAE 5W-30 | PRODUCT CODE: 3276

PACK SIZES: 208L, 20L

Delo® 400 XLE Synthetic is a premium performance, low-SAPS synthetic heavy-duty diesel engine oil designed to lubricate a wide range of high-speed diesel engines requiring API CJ-4 SN, or ACEA E9, E7, E6 performance lubricants where SAE 5W-30 viscosity grades are recommended. It is specifically designed for the latest low emission diesel engines fitted with Diesel Particulate Filters (DPFs), and also those fitted with Selective Catalytic Reduction (SCR) and/or Exhaust Gas Recirculation (EGR) emission control technologies. Delo® 400 XLE Synthetic is formulated with ISOSYN® base oils and low-ash additive technology to provide effective soot dispersancy, deposit control and wear protection.



APPLICATIONS

The following applications whenever the manufacturer recommends SAE 5W-30 grade:

- Mixed fleets of diesel engines (high-speed, four-stroke, turbocharged or naturally aspirated).
- Commercial road transport, including the latest engines fitted with exhaust cleanup devices of all types.
- Vehicles meeting recent exhaust emissions standards, including US EPA 2002 and 2007, Euro IV, V and VI, and Australian ADR 80/02 (for medium-duty) and ADR 80/03 (for heavy-duty).
- Mixed fleets of both diesel and gasoline engines, and both old and new equipment.
- Stop-and-go vehicles in high soot loading service such as buses and waste collection trucks.
- Most diesel engine light-duty vehicles.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- API CJ-4, CI-4 PLUS, CI-4/SN
- ACEA E6, E7, E9
- Caterpillar ECF-3
- Cummins CES 20081
- Daimler MB-Approval 228.51, 228.31
- Detroit Diesel DDC Power Guard 93K218
- Deutz DQC IV-10 LA
- JASO DH-2
- Mack EO-O Premium Plus 07
- MAN M 3677, M 3477
- MTU Category 3.1
- Renault RLD-3
- Volvo VDS-4

DELO® 400 XLE SYNBLEND  
PREMIUM SYNTHETIC-BLEND DIESEL ENGINE OIL

SAE 10W-30 | PRODUCT CODE: 3249

PACK SIZES: 208L, 20L

Premium synthetic blend mixed fleet motor oil for naturally aspirated and turbocharged four-stroke diesel engines and four-stroke gasoline engines in which the API CJ-4 or SM service category and SAE 10W-30 viscosity grade are recommended. It is a low-SAPS heavy-duty diesel engine oil specifically designed for the latest low emission diesel engines fitted with Diesel Particulate Filters (DPFs), but also those fitted with Exhaust Gas Recirculation (EGR) and/or Selective Catalytic Reduction (SCR) systems. Delo® 400 XLE Synblend is formulated with ISOSYN® Technology to provide effective soot dispersancy, deposit control and wear protection.



APPLICATIONS

The following applications whenever the manufacturer recommends SAE 5W-30 grade:

- Mixed fleets of four-stroke diesel engines (naturally aspirated and turbocharged).
- Commercial road transport, including the latest engines fitted with exhaust cleanup devices of all types.
- Vehicles meeting the recent exhaust emissions standards, including US EPA 2002 and 2007, Euro V and VI, and Australian ADR 80/02 and ADR 80/03.
- Mixed fleets of both diesel and gasoline engines, and both old and new equipment.
- Off-highway vehicles and plant.
- Mobile hydraulic systems (where oil type and viscosity are appropriate).

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- API CJ-4/SM
- ACEA E9
- Caterpillar ECF-3
- Cummins CES 20081
- Daimler MB Approval 228.31 (pending)
- Detroit Diesel 93K218
- JASO DH-2
- Mack EO-O Premium Plus 07
- Renault RLD-3
- Volvo VDS-4



**DELO® 400 LE**  
PREMIUM DIESEL ENGINE OIL

**SAE 15W-40** | **PRODUCT CODE:** 3006

**PACK SIZES:** Bulk, 1000L, 205L, 20L, 5L

Premium performance, low-SAPS heavy-duty diesel engine oil specifically designed to lubricate a wide range of high-speed diesel engines requiring API CJ-4, CI-4 PLUS, SM, or ACEA E9 performance lubricants operating under the most severe service conditions. Specifically designed for the latest low emission diesel engines, including those fitted with Diesel Particulate Filters (DPFs), but also those fitted with Exhaust Gas Recirculation (EGR) and/or Selective Catalytic Reduction (SCR) systems. Formulated with ISOSYN® base oils and the latest low-ash additive technology to provide effective soot dispersancy, deposit control and wear protection.



**APPLICATIONS**

- Mixed fleets of European, North American and/or Japanese diesel engines.
- Commercial road transport, including the latest engines fitted with exhaust cleanup devices of all types.
- Vehicles meeting the most recent exhaust emissions standards, including US EPA 2002 and 2007, Euro IV, V and VI, and Australian ADR 80/02 (for medium-duty) and ADR 80/03 (for heavy-duty).
- Mixed fleets of both diesel and petrol engines, and both old and new equipment.

**PERFORMANCE STANDARDS**

- ACEA E9, E7
  - API CJ-4, CI-4 PLUS, CI-4, CH-4/SM
  - Caterpillar ECF-3, ECF-2
  - Cummins CES 20081
  - Daimler MB-Approval 228.31
  - Detroit Diesel DDC Power Guard 93K218
  - Deutz DQC III-10 LA
  - Mack EO-O Premium Plus 07
  - MAN M 3575
  - MTU Category 2.1
  - Renault RLD-3
  - Volvo VDS-4
- Meets the requirements of:**
- ACEA E5, E3
  - API CF
  - Ford WSS-M2C171-E
  - JASO DH-2

**DELO® 400 MULTIGRADE**  
HIGH-PERFORMANCE DIESEL ENGINE OIL

**SAE 15W-40** | **PRODUCT CODE:** 2696

**PACK SIZES:** Bulk, 1000L, 205L, 20L, 5L, 1L

Premium performance, multigrade, heavy-duty diesel engine oil specifically designed to lubricate a wide range of diesel and petrol engines requiring API CI-4 PLUS, CI-4, SL, ACEA E7 or JASO DH-1 performance lubricants operating under the most severe service conditions. Specifically designed for the electronically controlled diesel engines, including those fitted with Exhaust Gas Recirculation (EGR) and/or Selective Catalytic Reduction (SCR) systems. Formulated with ISOSYN® technology to provide effective soot dispersancy, deposit control and wear protection.



**APPLICATIONS**

- Mixed fleets of European, North American and/or Japanese diesel engines (high-speed, four-stroke, turbocharged or naturally aspirated).
- Mixed fleets of both diesel and petrol engines.
- Mixed fleets including both old and new equipment.
- Commercial road transport, including the latest electronic controlled engines and those designed to meet Euro 3 emissions standards. Also for Euro 4 and 5 compliant vehicles, except those units fitted with Diesel Particulate Filters and requiring ACEA E6 or E9 oils.
- Stop-and-go vehicles in high soot loading service, such as buses and waste collection trucks.
- Off-highway vehicles and plant.
- Agricultural tractors and farm machinery.
- Generator sets.

**PERFORMANCE STANDARDS**

- ACEA E7
  - API CI-4 PLUS, CI-4, CH-4/SL
  - Caterpillar ECF-2, ECF-1-a
  - Cummins CES 20078, 20077, 20076
  - Daimler MB-Approval 228.3
  - Detroit Diesel DDC Power Guard 93K214
  - Deutz DQC III-10
  - Global DHD-1
  - Mack EO-N Premium Plus 03
  - MAN M 3275-1
  - MTU Category 2
  - Renault RLD-2
  - Volvo VDS-3
  - ZF TE-ML 04C
- Meets the requirements of:**
- ACEA E5-02, E3-96
  - API CG-4, CF-4, CF, CD
  - Cummins CES 20072
  - JASO DH-1
  - Mack EO-M Plus, EO-M

▶ **DELO® XLE MULTIGRADE**  
PREMIUM SYNTHETIC-BLEND DIESEL ENGINE OIL  
FOR SELECTED EUROPEAN VEHICLES

**SAE 10W-40 | PRODUCT CODE: 3059** **PACK SIZES: 1000L, 208L, 20L**

High-performance synthetic blend low-SAPS diesel engine oil designed to meet current ACEA requirements and more challenging OEM specifications for Euro V and VI engines, especially where Diesel Particulate Filters (DPFs) are fitted. It is designed for use in connection with low sulfur diesel fuel (50 ppm max). Delo® XLE Multigrade is formulated with ISOSYN® Technology, an optimised synthetic and premium mineral base oil blend plus low-ash additive technology to provide the maximum oil drain intervals recommended for European DPF-equipped Euro IV, V and VI compliant engines.



**APPLICATIONS**

- Naturally aspirated and turbocharged high-speed, four-stroke diesel engines burning low-sulphur diesel fuel.
- Diesel engines meeting Euro IV, V and VI emission requirements fitted with Diesel Particulate Filters (DPFs), Selective Catalytic Reduction (SCR) and/or Exhaust Gas Recirculation (EGR) emission control technologies.
- Earlier European heavy-duty diesel engines meeting Euro I, II or III emission requirements burning low sulfur fuel).

**PERFORMANCE STANDARDS**

- ACEA E6, E7
- API CI-4
- Deutz QQC III-10 LA
- Mack EO-N Premium Plus
- MAN M3477, M3271-1
- MB Approval 228.51, 226.9
- MTU Category 3.1
- Renault RLD-2, RXD, RGD
- Volvo VDS-3

▶ **DELO® XSD SYNTHETIC**  
PREMIUM SYNTHETIC DIESEL ENGINE OIL  
FOR SELECTED EUROPEAN VEHICLES

**SAE 10W-40 | PRODUCT CODE: 3279** **PACK SIZE: 208L**

Synthetic heavy-duty diesel engine lubricant designed to conform to current ACEA requirements and the more challenging OEM specifications, including Scania LDF-3 for latest technology Euro VI engines. Formulated with ISOSYN® Technology using premium quality base stocks in combination with high-performance additive technology designed to deliver reliable cold temperature performance, robust deposit control and long drain performance.



**APPLICATIONS**

- Heavy-duty naturally aspirated and turbocharged diesel engines operating with long drain intervals.
  - Scania Euro VI emissions diesel engines requiring Scania LDF-3 approved lubricant.
  - Backwards compatible and suitable for earlier European heavy-duty diesel engines meeting Euro II to Euro V emissions standards.
- See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

- ACEA E4, E7
- API CF
- Daimler MB Approval 228.5
- MAN M3277
- Planned approvals:**
  - Mack EO-N Premium Plus
  - Renault RLD-2, RXD
  - Scania LDF-2, LDF-3
  - Volvo VDS-3

DELO® GOLD ULTRA  
MULTIPURPOSE DIESEL ENGINE OIL

SAE 15W-40 | PRODUCT CODE: 3159

PACK SIZES: Bulk, 1000L, 205L, 20L, 5L

Delo® Gold Ultra is a high-performance, multigrade, heavy-duty diesel engine oil specifically designed to lubricate a wide range of engines requiring API CI-4 or ACEA E7 performance lubricants, including those fitted with Selective Catalytic Reduction (SCR) and/or Exhaust Gas Recirculation (EGR) emission control technologies. Delo® Gold Ultra is formulated with ISOSYN® Technology to provide effective soot dispersancy, deposit control and wear protection.



APPLICATIONS

- Mixed fleets of diesel engines (high-speed, four-stroke, turbocharged or naturally aspirated).
  - Four-stroke petrol engines in mixed fleets.
  - Commercial road transport.
  - Off-highway vehicles and plant.
  - Agricultural tractors and farm machinery.
  - High-speed diesel engines in marine service (e.g., fishing, river transport, etc.).
  - Generator sets.
  - Mobile hydraulic systems (where oil type and viscosity are appropriate).
- See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- ACEA E7
  - API CI-4, CH-4/SL
  - Caterpillar ECF-1-a
  - Cummins CES 20078, 77, 76
  - Daimler MB Approval 228.3
  - Mack EO-N Premium Plus
  - MAN M 3275-1
  - MTU Category 2
  - Renault RLD-2
  - Volvo VDS-3
- Meets the requirements of:**
- API CF-4, CF, CD
  - ACEA E5-02
  - Cummins CES 20072, 71
  - JASO DH-1
  - Mack EO-M Plus

DELO® SILVER  
MULTIPURPOSE ENGINE OIL

SAE 30 | PRODUCT CODE: 2897

SAE 40 | PRODUCT CODE: 2898

PACK SIZES: 1000L, 205L, 20L.

SAE 30 is also available in bulk and 5L.

Monograde diesel engine oils designed for a wide range of older diesel and petrol engines where a monograde is preferred.



APPLICATIONS

- Marine, off-highway, agricultural and stationary plant operations.
- Hydraulics and transmissions, where appropriate.
- The SAE 30 grade can be used in garden appliance petrol engines such as Briggs and Stratton.

PERFORMANCE STANDARDS

- API CF
- API SJ

**SUPER TRACTOR**  
SUPER TRACTOR OIL UNIVERSAL

**SAE 15W-40 | PRODUCT CODE: 2710** **PACK SIZES: 205L, 5L**

Shear stable, multigrade super tractor oil universal (STOU) fluid for tractor crankcases, transmissions including wet brakes, final drives and hydraulic systems where STOU type API CF-4/SF and API GL-4 fluids are recommended.



**APPLICATIONS**

- Where tractor manufacturers specify the use of an STOU type product.
- Enclosed oil immersed (wet) brakes.
- Mixed fleets of agricultural tractors and associated equipment.
- Power take off (PTO) clutches.

**PERFORMANCE STANDARDS**

- API CF, CF-4/SF
- API GL-4
- ZF TE-ML 06B, TE-ML 07B (approved and listed, reference 000789)

**Suitable for use where the following are specified:**

- Ford ESN-M2C159-B2, -B3
- Ford New Holland FNH 820092102, 890092103
- New Holland NH 024C
- Massey Ferguson CMS M1144

## Small Engine and Leisure Craft

### HAVOLINE® SUPER 2T

#### TWO-STROKE MOTORCYCLE AND SMALL ENGINE OIL

**PRODUCT CODE:** 3050

**PACK SIZES:** 20L, 4L, 1L

Two-stroke motorcycle oil that protects vital engine parts. It is formulated with a special low ash additive system and designed for engines requiring JASO FC or ISO EGC performance lubricants, including high output machines operating in severe service.



#### APPLICATIONS

- Air and liquid-cooled two-stroke motorcycle engines.
  - Particularly suitable for Japanese high-performance motorcycle engines.
  - Japanese two-stroke engines fitted to portable power equipment.
  - Oil-injected engines (except marine outboard) where no fuel/oil premixing is required.
  - Air-cooled, oil-petrol premix engines at manufacturers' recommended petrol-to-oil ratios up to 50:1.
  - Two-stroke motorcycle, motor tricycle and quad bike engines fitted with exhaust catalysts.
  - Based on successful field testing in Stihl MS660 chainsaws in severe duty forestry applications in New Zealand, this product is recommended for use in all Stihl chainsaws. If used in other chainsaw models, monitoring is recommended.
- Not recommended for use in marine outboard engines or gas-fuelled (CNG or LPG) engines.

#### PERFORMANCE STANDARDS

- API TC
- JASO FC (Identification Number: 061CTC684)
- ISO EGC
- SAE Grade (J1536) F/M 2

### TWO-STROKE LAWN MOWER OIL

#### TWO-STROKE MOTOR OIL

**PRODUCT CODE:** 2701

**PACK SIZE:** 200mL

All-mineral two-stroke petrol engine oil formulated with a low ash additive system. Pre-diluted with a low volatility, low odour solvent to facilitate mixing with petrol at all temperatures. Designed for engines requiring JASO FB or ISO EGB performance lubricants. Green in colour.



#### APPLICATIONS

- Two-stroke lawn mower engines.
  - Two-stroke lawn and garden tools, including weed eaters, trimmers, edgers, blowers.
  - Portable two-stroke generators.
  - Oil-injected engines in land-based service where no fuel/oil premixing is required.
  - Air-cooled, oil-petrol premix engines at manufacturers' recommended petrol-to-oil ratios, up to 50:1.
- Not recommended for marine outboard engines, chainsaw engines, any CNG- or LPG-fuelled two-stroke engines, or two-stroke engines equipped with exhaust catalyst systems. Catalyst protection requires part-synthetic, low-smoke JASO FC performance class oils, such as Havoline® Super 2T.

#### PERFORMANCE STANDARDS

- ISO EGB
- JASO FB
- SAE Grade (J1536) F/M 2

➤

FOUR-STROKE LAWN MOWER AND STATIONARY ENGINE OIL

FOUR-STROKE GARDENING IMPLEMENT AND STATIONARY ENGINE OIL

SAE 30 | PRODUCT CODE: 2699

PACK SIZES: 4L, 1L

Monograde engine oil intended primarily for the lubrication of petrol engines requiring API SJ performance lubricants, and suitable for small diesel engines where API CF performance is specified.



APPLICATIONS

- Stationary petrol engines (four-stroke, air- and water-cooled).
  - Lawn mowers.
  - Small four-stroke petrol powered generator sets.
- Other portable power equipment.
  - Small stationary diesel engines.

PERFORMANCE STANDARDS

- SAE 30
- API SJ/CF
- Briggs & Stratton SE, SF, SG SAE 30

➤

SUPER OUTBOARD 3

TWO-STROKE MARINE OUTBOARD MOTOR OIL

PRODUCT CODE: 2709

PACK SIZES: 20L, 4L, 1L

Two-stroke, marine outboard motor oil formulated with a special ashless additive system. Pre-diluted with a high flashpoint, low aromatic solvent to facilitate mixing with petrol at all temperatures. Designed for engines requiring NMMA TC-W3® certified lubricants, operating in all service conditions. Dyed green.



APPLICATIONS

- All water-cooled, two-stroke, marine outboard engines, including the latest designs under warranty protection.
  - Oil-injected engines.
- Oil-petrol premix engines at all petrol to oil ratios up to and including 100:1.
  - Air-cooled, two-stroke engines where API TD or NMMA certified oils are specified.

PERFORMANCE STANDARDS

- API TD
- NMMA TC-W3® (Certification Numbers RL-00420J)
- SAE Grade (J1536) F/M 3

TWO-STROKE BLENDING TABLE

Oil/Fuel ratio	5 Litres Petrol	10 Litres Petrol	20 Litres Petrol
25/1	200mL oil	400mL oil	800mL oil
50/1	100mL oil	200mL oil	400mL oil
100/1	50mL oil	100mL oil	200mL oil



Gas

PACK SIZES

Please see the available pack sizes listed for each product.



## HDAX® 9200 LOW ASH GAS ENGINE OIL

### GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 3270

PACK SIZE: 1000L

Premium performance low-ash, dispersancy and detergency type gas engine lubricant, offering robust component protection even under heavy loads, and designed for use in natural gas applications. Formulated with a premium base oil, offering extremely low sulphur, nitrogen and aromatic content, in combination with ashless dispersant and oxidation inhibitors, with a metallic detergent and anti-wear additive system. HDAX® 9200 offers reliable corrosion resistance and good combustion chamber deposit protection. Good piston deposit control helps minimise ring sticking. Oxidation and nitration resistance performance is designed to minimise viscosity increases in service.

APPLICATIONS

- Natural gas applications of new generation high output, turbocharged, low emission 4-cycle engines requiring low ash lubricants.
- The more demanding needs of high-speed 4-cycle gas engines in cogeneration applications.
- Applications with gas containing low levels of sulphur and chloro-fluoro-carbons (CFC).  
In sour gas/high CFC applications, lubricants with higher base reserve may be required.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Caterpillar Proof-of-Performance gained during extensive field trials in Caterpillar 3516 E+ and 3516 TALE engines.

▶

HDAX® 7200 LOW ASH GAS ENGINE OIL

GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 3095

PACK SIZES: Bulk, 1000L

Premium performance, long-drain, heavy-duty, low ash crankcase oil specifically designed to lubricate a wide range of four-cycle natural gas and dual-fuel engines where low ash oils are recommended. Formulated with hydrocracked base oils and additive technology to provide exceptional oxidation and nitration resistance, extended oil and filter life, outstanding protection against ring and liner scuffing and wear, and effective piston and ring belt deposit control to effectively protect against the formation and build-up of engine sludge.

APPLICATIONS

- Lean-burn and stoichiometric four-cycle stationary spark ignition engines burning sweet natural gas or LPG, operating under high-load, high-temperature conditions.
  - Four-cycle medium speed stationary spark ignition engines operating on sweet natural gas or LPG.
  - Four-cycle medium-speed stationary dual-fuel pilot injection engines operating on sweet natural gas or LPG.
- Formulated to meet NSCR catalyst compatibility requirements and is suited for installation requiring low phosphorus oil to help prevent exhaust catalyst poisoning.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Meets Caterpillar field test requirements for 3500 series and smaller gas engines (self-certified).
  - Meets Caterpillar field test requirements for 3600 and C280 series gas engines (self-certified).
  - Approved by Waukesha for cogeneration applications.
  - Meets Waukesha field test requirements for engines burning natural gas other than the 220GL model (self-certified).
- Approved by GE Jenbacher for Type 2, 3, 4 (version B) and 6 (version E) engines.
  - Limited approval by Caterpillar for Cat CG132, CG170, CG 260 and MWM engines.
  - Approved by Deutz against TR 0199-99-01213/2 for 913, 914 and TCG2015 series engines.

▶

HDAX® 5200 LOW ASH GAS ENGINE OIL

GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 3184

PACK SIZES: Bulk, 205L

Heavy-duty, low ash crankcase oil specifically designed to lubricate a wide range of four-cycle natural gas and dual-fuel engines where low ash oils are recommended. It is formulated with hydrocracked base oils and additive technology to provide oxidation and nitration resistance, extended oil and filter life, and wear protection.

APPLICATIONS

- Four-cycle high-speed stationary spark ignition engines operating on sweet natural gas or LPG.
  - Four-cycle medium-speed stationary spark ignition engines operating on sweet natural gas or LPG.
  - Four-cycle medium-speed stationary dual-fuel pilot injection engines operating on sweet natural gas or LPG.
- See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Meets Caterpillar field test requirements for G3500 series and smaller engines (self-certified).
  - Meets Caterpillar field test requirements for G3600 series engines (self-certified).
  - Approved by Caterpillar for Cat CG132, CG170, CG260 and MWM gas engines.
  - Approved by Deutz against TR 0199-99-01213/2 for 913, 914 and TCG2015 series engines.
  - Approved by GE Jenbacher for Type 2/3 and Type 6 engines burning natural gas, including catalyst equipped engines.
- Approved by MAN Diesel & Turbo approval for gas and dual-fuel engines.
  - Approved by Wärtsilä for SG and DF engines.
  - Approved by Waukesha for cogeneration applications.
  - Meets Waukesha field test requirements for engines burning natural gas other than the 220GL series (self-certified).

HDAX® 5300 MEDIUM ASH GAS ENGINE OIL  
GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 2951

PACK SIZES: 1000L, 205L

Heavy-duty, high alkalinity reserve medium ash crankcase oil designed to lubricate a wide range of four-cycle engines burning sour gas or digester gas (biogas), and some dual-fuel, pilot-injected engines where medium ash oils are recommended. Formulated with a combination of special base oils and matching advanced additive chemistry, to provide oxidation and nitration resistance, extended oil and filter life, and outstanding wear protection.

APPLICATIONS

- Four-cycle spark ignition industrial gas engines.
- Digester gas (biogas) engines.
- Stationary compression ignition dual-fuel engines.

See Product Data Sheet for Service Considerations.

HDAX® 6500 LFG GAS ENGINE OIL  
GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 3234

PACK SIZES: Bulk, 1000L, 205L

Premium quality, low ash, dispersant/detergent type gas engine oil formulated especially for four-cycle landfill gas applications. Combination of high-performance hydrocracked base fluids and a robust inhibitor package provides exceptional protection and maximised oil drain intervals, even in the presence of the most aggressive landfill gases.

APPLICATIONS

- Four-cycle engines fuelled by landfill gas containing elevated levels of chlorofluorocarbons (CFCs) where low ash oils are required or preferred.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- GE Jenbacher approval for Types 2, 3, 4B and 6E engines burning landfill gas (Fuel C) and biogas (Fuel B).
- MWM Low Ash approval to lubricate a range of engines. Contact our sales representatives for specific details.

HDAX® 5500 LFG GAS ENGINE OIL  
GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 2913

PACK SIZES: 1000L, 205L

Medium ash, dispersant/detergent type gas engine oil formulated especially for four-cycle landfill gas applications. Combination of high-performance hydrocracked base fluids and a robust inhibitor package provides exceptional protection and maximised oil drain intervals even in the presence of the most aggressive landfill gases.

APPLICATIONS

- Four-cycle engines fuelled by landfill gas containing elevated levels of chlorofluorocarbons (CFCs).
- Sour gas applications where corrosive wear is a special concern.
- Engines where an increased ash level is preferred for improved valve recession control.
- Sweet gas applications where a high base number is preferred.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- GE Jenbacher approval for Type 2/3 engines burning biogas or landfill gas.
- Waukesha approval for engines burning landfill gas.

HDAX® 5100 ASHLESS GAS ENGINE OIL  
GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 3187

PACK SIZE: 205L

Heavy-duty, ashless crankcase oil specially designed for use in ash sensitive, two-cycle and older four-cycle, spark ignition, LPG or natural gas stationary engines.

APPLICATIONS

- Two-cycle stationary engines on sweet natural gas or LPG.
  - Older, four-cycle stationary engines on sweet natural gas or LPG.
- See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Meets the requirements of the following gas engine manufacturers:
- Ajax
  - Clark-Dresser
  - Cooper Bessemer (two-cycle)
  - Dresser-Rand (Ingersoll-Rand) (two-cycle)
  - Fairbanks-Morse (two-cycle)
  - Worthington (two-cycle)

GAS ENGINE OIL HD  
GAS ENGINE OIL

SAE 40 | PRODUCT CODE: 3020

PACK SIZES: Bulk, 205L

Heavy-duty, high alkalinity reserve, monograde crankcase oil specifically designed to lubricate European four-cycle spark ignition engines burning natural gas, digester gas (biogas) or liquid petroleum gas (LPG) and engines where lubricants of the EMA Medium Ash type are recommended.

APPLICATIONS

- Four-cycle, spark ignition industrial gas engines.
- Digester gas (biogas) engines.
- Stationary compression ignition dual-fuel engines.
- Gas powered cogeneration engines.
- Many European stationary four-cycle engines.

PERFORMANCE STANDARDS

- U.S. EMA Medium Ash Category
- API CD

DELO® 400 NG  
HEAVY-DUTY MOBILE GAS ENGINE OIL

SAE 15W-40 | PRODUCT CODE: 3281

PACK SIZE: 208L

CNG/LNG/LPG oil formulated to deliver protection and long drain performance in a wide variety of medium and heavy-duty CNG/LNG/LPG-fuelled applications. Delo® 400 NG has demonstrated field performance and the capability to help customers minimise operating costs in a variety of operations including city bus services, delivery and refuse truck services, and long-distance truck services.

APPLICATIONS

- CNG/LNG/LPG-fuelled urban buses.
- CNG/LNG/LPG-fuelled delivery and refuse trucks.
- CNG/LNG/LPG-fuelled long-distance trucks.

PERFORMANCE STANDARDS

- Cummins CES 20074 (Letter of Conformance)
- Detroit Diesel DDC93K216 (Letter of Conformance)

Railroad

DELO® 710 LE  
RAILROAD DIESEL ENGINE OIL

SAE 20W-40 | PRODUCT CODE: 3099

PACK SIZES: Bulk, 1000L, 205L

Delo® 710 LE is an industry leading, premium diesel engine oil for use in EMD and GE engines in marine, railroad and power generation applications.

APPLICATIONS

Recommended for diesel engines using low sulfur diesel, ultra low sulfur diesel and extra low sulfur diesel fuels where zinc-free oils are required in the following applications:

- Railroad
- Marine
- Offshore drilling and production
- Stationary power generation.

PERFORMANCE STANDARDS

- LMOA Generation 6 product (meets performance requirements of)
- Electro-Motive Diesel LMOA Generation 5 (approved)
- General Electric LMOA Generation 4 Long Life (approved)



DELO® 6130 CFO  
13 BASE NUMBER, CHLORINE-FREE, RAILROAD DIESEL ENGINE OIL

SAE 40 | PRODUCT CODE: 2982

SAE 20W-40 | PRODUCT CODE: 2852

PACK SIZES: Bulk, 1000L, 205L.  
SAE 40 is also available in 20L.

13 Base Number, zinc-free, LMOA Generation 5 diesel engine oil, with chlorine-free additive technology, for use in railroad-type diesel engines, particularly modern higher output, lower oil consumption designs. Delo® 6130 CFO, when compared with Generation 4 oils, has significantly enhanced dispersancy and oxidation resistance.



APPLICATIONS

- Medium-speed, two- and four-cycle railroad-type diesel engines, including the most recent high output, low oil consumption designs, whether in railroad, stationary or marine service.
- Electro-Motive Diesel (EMD) 567, 645 and 710 (two-cycle) and 265H (four-cycle) railroad diesel engines in railroad, marine and stationary power-plant service.
- General Electric (GE) 7FDL, 7HDL and GEVO railroad diesel engines in railroad, marine and stationary power-plant service.
- Detroit Diesel Corporation (DDC) two-cycle diesel engine applications, Series 53, 71, 92 and 149 (SAE 40 only).

Not suitable for use in marine-type engines equipped with active purification systems.  
See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- IEMD Worthy of Full-Scale Field Test
- General Electric Fundamental Approval
- LMOA Generation 5
- API CF
- API CF-2 (SAE 40)

Marine Crosshead – Cylinder Lubricant



▶ **TARO® SPECIAL HT 55, 70 and 100**  
SLOW SPEED ENGINE OIL

ISO Grade	HT 55	HT 70	HT 100
Product Code	3255	2873	3346

**PRODUCT CODE:** Refer to table above.**PACK SIZES:** Bulk, 1000L, 205L

**Taro® Special HT 55** is a 55 BN SAE 50 cylinder lubricant optimised to lubricate slow-speed crosshead engines using reduced sulfur fuel (<2% to max 3.5 wt% sulfur as stipulated by Marpol Annex VI Agreement) and operating at very high mechanical and thermal loads.

**Taro® Special HT 70** is a 70 BN SAE 50 cylinder lubricant for lubricating slow-speed engines at very high mechanical and thermal loads.

**Taro® Special HT 100** is a 100 BN SAE 50 cylinder lubricant optimized to combat the effects of cold corrosion, especially when slow steaming at low load, in new design two-stroke marine engines operating on heavy fuel oil.

These products are blended from highly-refined paraffinic base oils and carefully selected additives to provide ring and liner wear protection and piston cleanliness in slow-speed crosshead engines. They have been developed for high-pressure and high-temperature applications.

APPLICATIONS

- **Taro® Special HT 55** is recommended for lubricating the cylinders of all crosshead-type marine diesel engines using lower sulfur fuel (2% to max 3.5% sulfur) and operating at high specific power outputs and high thermal loads. Running on lower sulfur fuel requires the reduction of base introduced into the cylinder. This can be achieved by optimising the oil feed rate or selecting a diesel cylinder lubricant that has been specially optimised to a lower base number.
- **Taro® Special HT 70** is recommended for lubricating the cylinders of all large slow-speed marine diesel engines operating at high specific power outputs and high thermal loads.
- **Taro® Special HT 100** is recommended for lubricating the cylinders of large low-speed marine diesel engines operating with heavy fuel oil, especially when slow steaming at low load. Taro® Special HT 100 is developed to be used for operating conditions and engine types which are sensitive to cold corrosion, and should be used in accordance with OEM guidelines and recommendations.

PERFORMANCE STANDARDS

- **Taro® Special HT 55** has been approved by MAN Diesel & Turbo for use in large diesel engines and by Wärtsilä for use in OEM specific engines.
- **Taro® Special HT 70** has been approved by MAN Diesel, Wärtsilä and Mitsubishi Heavy Industries for use in the latest generation engine designs.
- **Taro® Special HT 100** meets MAN Diesel & Turbo OEM requirements (Interim NOL issued).



TARO® SPECIAL HT LS 40

SLOW SPEED ENGINE OIL

PRODUCT CODE: 3003

PACK SIZES: Bulk, 205L

Taro® Special HT LS is a 40 BN SAE 50 cylinder lubricant particularly intended for lubricating the cylinders of the latest generation engines using low sulfur fuel (<1.5 to 2 wt%) and operating at very high mechanical and thermal loads reaching up to 160 bar in maximum cylinder pressure and up to 270°C in liner temperature at top dead centre. Blended from highly refined, paraffinic base oils and carefully selected additives to provide good ring and liner wear protection and good piston cleanliness in low-speed crosshead engines. Taro® Special HT LS 40 has been developed specifically for high-pressure and high-temperature applications.

APPLICATIONS

- Cylinder lubrication of all crosshead-type marine diesel engines continuously using low sulfur fuel and operating at high specific power outputs and high thermal loads.
- Running on low sulfur fuel requires the reduction of base introduced into the cylinder. This can be achieved by optimising the oil feed rate or selecting a diesel cylinder lubricant with a lower base number.

PERFORMANCE STANDARDS

- Taro® Special HT LS 40 has been approved by MAN B&W and Wärtsilä for use in the latest generation engine designs.

## Marine Crosshead – System Oil

**PACK SIZES**

Please see the available pack sizes listed for each product.



1000L



205L

VERITAS 800 MARINE

ALKALINE, LOW-SPEED DIESEL ENGINE SYSTEM OIL

SAE 30 | PRODUCT CODE: 1338

PACK SIZES: 1000L, 205L

Premium quality, alkaline diesel engine oil designed for crankcase (system) lubrication of large, low-speed diesel engines in marine and stationary applications.

- APPLICATIONS**
- Crankcase lubrication of:
- Large, low-speed (less than 250 rpm), two-cycle crosshead diesel engines.
  - Particularly suitable for engines with oil-cooled pistons.
  - Older-type marine trunk piston engines with separate cylinder lubrication.
  - Marine and stationary applications.
- See Product Data Sheet for Service Considerations.

# Marine Trunk Piston Oil

PACK SIZES

Please see the available pack sizes listed for each product.



**DELO® 1000 MARINE**  
MARINE & STATIONARY DIESEL ENGINE OIL

**SAE 30** | **PRODUCT CODE:** 1294  
**SAE 40** | **PRODUCT CODE:** 1295      **PACK SIZES:** 205L. SAE 40 also available in bulk and 1000L.

Lower alkaline reserve (12 Base Number) trunk piston engine oil (TPEO) designed for use in medium-speed trunk piston engines burning distillate fuels with sulfur content up to 1.5% in marine or stationary service.

APPLICATIONS

- Medium-speed trunk piston engines burning distillate fuels in marine main and auxiliary powerplant service.
- Medium-speed trunk piston engines burning distillate fuels in stationary powerplant service.

PERFORMANCE STANDARDS

- Approved by major manufacturers for use in their medium-speed engines, including MAN Diesel and Wärtsilä.

**TARO® 20 DP**  
MARINE & STATIONARY DIESEL ENGINE OIL

**PRODUCT CODE:** 2734      **PACK SIZES:** Bulk, 205L

Medium alkaline reserve (20 Base Number) trunk piston engine oil (TPEO) designed for use in high specific output medium-speed trunk piston engines burning residual fuels (up to 2.0% sulfur). Particularly suited to high-load factor operations in marine or stationary service and where heavy fuels with high asphaltene content (namely broken residue) are used.

APPLICATIONS

- Medium-speed trunk piston engines including latest designs in stationary power generation, especially in high-load factor operations.
- Medium-speed trunk piston engines in marine service.

TARO® 30 DP

MARINE & STATIONARY DIESEL ENGINE OIL

SAE 30		PRODUCT CODE: 2739	
SAE 40		PRODUCT CODE: 2738	PACK SIZES: Bulk, 205L. SAE 30 also available in 1000L.

Moderately high alkaline reserve (30 Base Number) trunk piston engine oil (TPEO) designed for use in high specific output medium-speed trunk piston engines burning residual fuels (up to 4.0% sulfur). Particularly suited to high load factor operations in marine or stationary service and where heavy residual fuels with high asphaltene content (vis broken residue) are used.

APPLICATIONS

- Medium-speed trunk piston engines including latest designs in stationary power generation, especially in high load factor operations.
- Medium-speed trunk piston engines in marine service.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Approved by major manufacturers for use in their medium-speed engines.

TARO® 40 XL

MARINE & STATIONARY DIESEL ENGINE OIL

SAE 40		PRODUCT CODE: 2735	PACK SIZES: Bulk, 1000L, 205L
--------	--	--------------------	-------------------------------

High alkaline reserve (40 Base Number) trunk piston engine oil (TPEO) designed for use in high specific output medium-speed trunk piston engines burning residual fuels (over 4.5% sulfur). Particularly suited to high load factor operations in marine or stationary service and where heavy residual fuels with high asphaltene content (vis broken residue) are used.

APPLICATIONS

- Medium-speed trunk piston engines including latest designs in stationary power generation, especially in high load factor operations.
- Medium-speed trunk piston engines in marine service.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Approved by major manufacturers for use in their medium-speed engines.

**TARO® 50 XL**  
**MARINE & STATIONARY DIESEL ENGINE OIL**

**SAE 40** | **PRODUCT CODE:** 2736 **PACK SIZE:** Bulk

Very high alkaline reserve (50 Base Number) trunk piston engine oil (TPEO) designed for use in newer generation, high specific output medium-speed trunk piston engines fitted with anti-polishing rings burning residual fuels (up to 4.5% sulfur). Particularly suited to high load factor operations in marine or stationary service and where heavy residual fuels with high asphaltene content (vis broken residue) are used.

**APPLICATIONS**

- Large medium-speed trunk piston engines fitted with anti-polishing rings.
- Medium-speed trunk piston engines including latest designs in stationary power generation, especially in high load factor operations.
- Medium-speed trunk piston engines in marine service.

**PERFORMANCE STANDARDS**

- Approved by major manufacturers for use in their medium-speed engines.

# DRIVELINE FLUIDS





# DRIVELINE FLUIDS

<b>AUTOMATIC TRANSMISSION FLUIDS</b>	<b>33</b>
HAVOLINE® SYNTHETIC ATF MULTI-VEHICLE DEXRON®-VI	33
DELO® SYN ATF HD	34
TEXAMATIC® 1888	34
HAVOLINE® ATF-J	35
AUTOTRANS FLUID BW	35
CVT FLUID MULTI-VEHICLE	36
 <b>GEAR OILS</b>	 <b>37</b>
GEAR OIL SAE 75W-85	37
EASY SHIFT SAE 75W-90	37
DELO® SYNTHETIC TRANSMISSION FLUID SAE 50	38
DELO® SYN ATF HD	38
DELO® SYN-GEAR XDM SAE 75W-90, 80W-140	39
SYNTHETIC GEAR LUBRICANT FM SAE 75W-140	39
THUBAN® GL5 EP SAE 80W-90, 85W-140	40
DELO® GEAR ESI SAE 80W-90	40
RPM BORATE® EP LUBRICANT 150 – 680	41
GEAR OIL LSD SAE 90, 140	42
TORQUE FLUID 414, 414 DYED BLUE, 434, 434 DYED BLUE, 454, 464	43
FINAL DRIVE SAE 60	44
TEXTRAN® TDH PREMIUM	44
SUPER TRACTOR SAE 15W-40	45

# Automatic Transmission Fluids

**HAVOLINE® SYNTHETIC ATF MULTI-VEHICLE DEXRON®-VI**  
**AUTOMATIC TRANSMISSION FLUID**

**PRODUCT CODE:** 3222

**PACK SIZES:** 208L, 18L

Havoline® Synthetic ATF Multi-Vehicle DEXRON®-VI is a high-performance, low-viscosity, anti-shudder type multipurpose automatic transmission fluid (ATF) formulated with hydrocracked base oils which provide outstanding oxidation resistance.



**APPLICATIONS**

- All General Motors automatic transmissions, including 2006 and later models that require DEXRON®-VI fluids. In GM automatic transmissions, DEXRON®-VI fluids are back-serviceable to all earlier GM ATF specifications including DEXRON®-III, DEXRON®-IIE, DEXRON®-II, DEXRON®, Type A, Suffix A and Type A. This back serviceability is not always applicable to other makes of automatic transmissions, so in all cases equipment manufacturer requirements should be reviewed.
- Ford automatic transmissions where MERCON® SP, MERCON® LV, MERCON® V or MERCON® fluids are required. However, it is not approved by Ford or licensed as a MERCON® fluid, and its use in Ford equipment may void warranties.
- Many other Asian and North American automatic transmissions that require low-viscosity and/or anti-shudder type fluids. Havoline® Synthetic ATF Multi-Vehicle DEXRON®-VI has not been formally evaluated by the Asian vehicle or transmission manufacturers, whose specifications are generally not in the public domain. However through comprehensive in-house bench test validation and vehicle fleet testing, it has been proven to offer performance commensurate with the Asian OEM genuine fluids.
- Power steering systems for which DEXRON®-VI fluids are explicitly allowed, including ZF Lenksysteme units where fluids meeting ZF TE-ML 09 are specified.
- Not suitable for use in continuously variable transmissions (CVTs).

**PERFORMANCE STANDARDS**

- Approved for:**
- GM DEXRON®-VI fluid, Licence Number J-62103 (18L) J-62300 (208L)\*
- Meets:**
- JASO M315 type 1A-LV (self-certified)
  - ZF TE-ML 09 (self-certified)
- Suitable for use where the following fluid specifications are recommended:**
- Ford MERCON® SP, MERCON® LV, MERCON® V and MERCON®
  - Honda ATF-DW-1 and ATF-Z1
  - Hyundai SP-IV
  - Nissan Matic S
  - Toyota Type WS
- Always check your owner’s manual to determine the proper automatic transmission fluid for your vehicle.
- \* Havoline® Synthetic ATF Multi-Vehicle DEXRON®-VI is a Chevron® Company product manufactured and packaged outside Australia. It is imported and distributed by Caltex Australia in the original packaging.

DELO® SYN ATF HD

AUTOMOTIVE SYNTHETIC TRANSMISSION FLUID

PRODUCT CODE: 2915

PACK SIZES: 208L, 20L

Delo® Syn ATF HD is a premium performance, multipurpose anti-wear automatic transmission fluid (ATF) formulated in ultra high-viscosity index base fluid, with Allison Transmission, Mercedes Benz, Volvo, ZF and Voith Turbo qualifications. Specially designed for heavy-duty automatic truck and bus transmissions operating in severe service. Delo® Syn ATF HD is the new product name of Synthetic Automatic Transmission Fluid Heavy Duty.



APPLICATIONS

- Both on-highway and off-highway heavy-duty automatic transmissions.
  - Car and light truck automatic transmissions.
  - Power steering units (where the manufacturer recommends a DEXRON®-III or MERCON® fluid).
  - Rotary vane and screw type air compressors (where this type of fluid is appropriate).
- Mobile hydraulic systems.
  - Industrial anti-wear hydraulic systems.
  - Marine anti-wear hydraulic systems.
  - Manual transmissions and transaxles (where this type of fluid is appropriate).

PERFORMANCE STANDARDS

- MAN 339 Type V1
  - MAN 339 Typ V2, Z2, Z12 (Approved: TUC 0071/15)
  - MB-Approval 236.9
  - Voith Turbo H55.6335 (Approved: G607)
  - Voith Turbo H55.6336 (Approved: G1363)
  - Volvo 97341 (Approved: 97341:053)
  - ZF TE-ML 03D, 04D, 14B, 16L, 17C, 20B (Approved: ZF001664)
- Suitable for use in out of warranty units where the following fluid performance specifications are recommended:

  - Allison TES-295, TES-389
  - Allison C-4 (obsolete)
  - Ford MERCON® (obsolete)
  - Ford MERCON® V
  - GM DEXRON®-III (obsolete)

TEXAMATIC® 1888

AUTOMATIC TRANSMISSION & POWER STEERING FLUID

PRODUCT CODE: 2940

PACK SIZES: 1000L, 205L, 60L, 20L, 4L, 1L

High-performance, multipurpose, shear stable, anti-wear automatic transmission fluid (ATF) with Voith Turbo approval. Formulated with high-performance hydrocracked base oils and the latest additive technology to provide oxidation resistance, extended oil life and wear protection. Dyed red in colour.



APPLICATIONS

- Car and light truck automatic transmissions.
  - On-highway heavy-duty automatic transmissions.
  - Off-highway heavy-duty automatic transmissions.
  - Power steering units (where the manufacturer recommends a DEXRON®-III or MERCON® fluid).
  - Rotary vane and screw type air compressors (where this type of fluid is appropriate).
- Mobile hydraulic systems.
  - Industrial anti-wear hydraulic systems.
  - Marine anti-wear hydraulic systems.
  - Manual transmissions and transaxles (where this type of fluid is appropriate).

PERFORMANCE STANDARDS

- SAE 10W
  - Suitable for use where Allison TES 389 fluids are specified
  - Suitable for use where Ford MERCON® fluids are specified
- Suitable for use where General Motors DEXRON®-III fluids are specified
  - Voith Turbo H55.6335 (G607 list)
  - Volvo 97341 (approved)



## HAVOLINE® ATF-J AUTOMATIC TRANSMISSION FLUID

**PRODUCT CODE:** 2988

**PACK SIZES:** 200L, 60L, 20L

High-performance, multipurpose automatic transmission fluid (ATF) formulated in hydrocracked base oils which provide outstanding oxidation resistance. Specially engineered for Japanese passenger car automatic transmissions which require fluid properties different to conventional ATF.



### APPLICATIONS

- Automatic transmissions in many Japanese and Korean passenger cars and light trucks.
- Suitable for service fill in automatic transmissions requiring DEXRON®-III or MERCON® fluids.

See Product Data Sheet for Service Considerations.

### PERFORMANCE STANDARDS

- JASO M315 Type 1-A

**Suitable for use where the following fluid specifications are recommended:**

- Honda ATF-Z1
- Nissan Matic J
- Mazda ATF M5
- Subaru ATF
- Mitsubishi Diamond SP III
- Toyota T IV

## AUTOTRANS FLUID BW AUTOMATIC TRANSMISSION FLUID

**PRODUCT CODE:** 1275

**PACK SIZES:** 205L, 60L, 20L, 1L

A special purpose automatic transmission fluid for BTR 85LE and BTR 95LE four-speed Ford automatic transmissions. Dyed red.



### APPLICATIONS

- BTR 95LE four speed automatic transmissions as fitted to the six and eight cylinder Ford Falcon EB, Fairlane NC and LTD DC and subsequent models.
- BTR 85LE four speed automatic transmissions fitted to Series 2 six cylinder Ford Falcon EA, Fairlane NA and LTD DA model passenger cars.

### PERFORMANCE STANDARDS

- ISO Grade 32 (SAE 10W)

**Suitable for use where the following fluid specifications are recommended:**

- BTR 5M-52, 95LE, 85LE

CVT FLUID MULTI-VEHICLE  
CONTINUOUSLY VARIABLE TRANSMISSION FLUID

PRODUCT CODE: 3285

PACK SIZE: 20L

CVT Fluid Multi-vehicle is a synthetic-blend lubricant designed to suit a broad range of continuously variable automatic transmissions (CVTs). It is formulated with selected base stocks and additives to provide the viscosity, wet clutch performance, fatigue damage protection, dispersancy, oxidation stability and organic material compatibility that are typical of conventional automatic transmission fluids, but additionally to provide the metal-on-metal friction between belt and pulley and the more severe metal anti-wear and anti-foaming performance that are required by continuously variable transmissions.



APPLICATIONS

- CVT Fluid Multi-vehicle is designed for use in a wide range of continuously variable transmissions in non-hybrid vehicles (see Performance Standards). Although miscible and compatible with conventional branded gear oils, mixing with other gear oils should be avoided in order to obtain the full performance of this product. A full oil change is recommended when converting to CVT Fluid Multi-vehicle.
  - This product is suitable for many, but not all, continuously variable transmission (CVT) applications. It is not recommended for the transmissions of hybrid vehicles. Do not use in high-pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
- Always check your owner's manual to determine the proper automatic transmission fluid specification for your vehicle.

PERFORMANCE STANDARDS

Recommended for use where the following specifications are called for:

- Audi /VW TL 52180\*, G 052 180\*
- Chrysler Jeep NS-2
- Daihatsu Ammix CVT
- Dodge/Jeep NS-2, CVTF+4
- Ford CVT23, CVT30\*, MERCON® C\*
- GM/Saturn DEX-CVT
- Honda HCF2, HMMF
- Hyundai/Kia SP-III
- Mercedes Benz 236.2
- Mitsubishi CVTF-J1, SP-III
- Mini Cooper EZL 799
- Nissan NS-1, NS-2 /NS3
- Shell Green 1V
- Subaru ECVT, ICVT, Lineartronic CVTF\*
- Suzuki TC, NS-2, CVT Green 1
- Toyota TC, CVTF FE

\* Chain type

Gear Oils

GEAR OIL  
MANUAL TRANSMISSION FLUID

SAE 75W-85 | PRODUCT CODE: 3284

PACK SIZES: 1000L, 60L, 20L

Gear Oil SAE 75W-85 is a shear stable, multigrade manual transmission fluid specifically designed for passenger car and light commercial manual transmissions and transaxles where SAE 75W-85 API GL-4 lubricants are required.



APPLICATIONS

- Japanese and Korean passenger car and light commercial vehicle manual transmissions and transaxles where SAE 75W-85 API GL-4 lubricants are required. Examples are certain models of Daewoo, Daihatsu, Holden, Hyundai, Kia, Mitsubishi, Nissan, Proton and SsangYong.
- Note: Not recommended for use in heavy-duty truck and bus manual transmissions, or in spiral bevel or hypoid drive axles where API GL-4 or GL-5 type gear lubricants are specified.

PERFORMANCE STANDARDS

Suitable for use in certain models of the following makes of manual transmission and transaxles where SAE 75W-85 API GL-4 fluids are required:

- Daewoo
- Daihatsu
- Hyundai
- Kia
- Mitsubishi
- Nissan
- Proton
- SsangYong
- Suzuki

EASY SHIFT  
MANUAL TRANSMISSION FLUID

SAE 75W-90 | PRODUCT CODE: 1418

PACK SIZES: 1000L, 60L, 20L

High-performance, highly shear stable, multigrade manual transmission fluid for Japanese passenger car manual transmissions and transaxles. It may also be used in other manual transmissions fitted to modern passenger car and light commercial vehicles.



APPLICATIONS

- Japanese and Korean passenger car and light commercial vehicle manual transmissions and transaxles.
- Note: Not recommended for use in heavy-duty truck and bus manual transmissions, or in spiral bevel or hypoid drive axles.

PERFORMANCE STANDARDS

Suitable for use in the following makes of manual transmission and transaxles:

- Hyundai
- Kia
- Mazda
- Mitsubishi
- Nissan
- Suzuki
- Toyota

DELO® SYNTHETIC TRANSMISSION FLUID  
AUTOMOTIVE SYNTHETIC TRANSMISSION OIL

SAE 50 | PRODUCT CODE: 3038

PACK SIZES: 1000L, 200L, 20L

Delo® Syn-Trans XE SAE 75W-90 will supersede Delo® Synthetic Transmission Fluid SAE 50 in 2016.



Synthetic-based, premium non-extreme pressure heavy-duty manual transmission oil with thermal and oxidation resistance. It is designed to provide protection for non-synchronised heavy-duty manual transmissions and automated manual transmissions (AMTs) which do not require extreme pressure (EP) type gear oils. The superior properties of the synthetic base fluid are further enhanced with anti-wear agents and rust and oxidation inhibitors.

APPLICATIONS

- North American type, heavy-duty non-synchronised manual transmissions, such as those manufactured by Eaton and Mack.
- ZF Freedomline automated manual transmissions.
- Especially suitable where operating conditions are severe or where equipment must operate in extremely hot or cold climates.

Note: Though not recommended, Delo® Synthetic Transmission Fluid will mix with conventional mineral oils.

PERFORMANCE STANDARDS

- API MT-1 (self-certified)
  - Eaton PS-164, Revision 7 (approved and listed)
  - Meritor Specification O-81 (approved and listed)
  - ZF: approved and listed for use in ZF-Freedomline AMTS
  - Mack TQ-A Plus (approved and listed)
  - International TMS-6816, Synthetic Transmission Lubricant, SAE 50 (suitable for use)
  - Spicer MS-961-T (suitable for use)
- Delo® Syn-Trans XE SAE 75W-90 will be approved against Eaton PS-386.

DELO® SYN ATF HD  
AUTOMOTIVE SYNTHETIC TRANSMISSION FLUID

PRODUCT CODE: 2915

PACK SIZES: 208L, 20L



Delo® Syn ATF HD is a premium performance, multipurpose anti-wear automatic transmission fluid (ATF) formulated in ultra high-viscosity index base fluid, with Allison Transmission, Mercedes Benz, Volvo, ZF and Voith Turbo qualifications. Specially designed for heavy-duty automatic truck and bus transmissions operating in severe service. Delo® Syn ATF HD is the new product name of Synthetic Automatic Transmission Fluid Heavy Duty.

APPLICATIONS

- Both on-highway and off-highway heavy-duty automatic transmissions.
- Car and light truck automatic transmissions.
- Power steering units (where the manufacturer recommends a DEXRON®-III or MERCON® fluid).
- Rotary vane and screw type air compressors (where this type of fluid is appropriate).
- Mobile hydraulic systems.
- Industrial anti-wear hydraulic systems.
- Marine anti-wear hydraulic systems.
- Manual transmissions and transaxles (where this type of fluid is appropriate).

PERFORMANCE STANDARDS

- MAN 339 Type V1
  - MAN 339 Typ V2, Z2, Z12 (Approved: TUC 0071/15)
  - MB-Approval 236.9
  - Voith Turbo H55.6335 (Approved: G607)
  - Voith Turbo H55.6336 (Approved: G1363)
  - Volvo 97341 (Approved: 97341:053)
  - ZF TE-ML 03D, 04D, 14B, 16L, 17C, 20B (Approved: ZF001664)
- Suitable for use in out of warranty units where the following fluid performance specifications are recommended:**
- Allison TES-295, TES-389
  - Allison C-4 (obsolete)
  - Ford MERCON® (obsolete)
  - Ford MERCON® V
  - GM DEXRON®-III (obsolete)



**DELO® SYN-GEAR XDM**  
EXTREME PRESSURE SYNTHETIC GEAR OIL

**SAE 75W-90** | **PRODUCT CODE:** 3039  
**SAE 80W-140** | **PRODUCT CODE:** 3040

**PACK SIZES:** Refer to table below.

Synthetic-based, premium extreme pressure (EP) gear lubricant meeting API GL-5 and MT-1. It is designed to provide good year-round performance and protection in automotive gear applications over a very wide temperature range and under extended drain operation.



**APPLICATIONS**

- On-road axle and differential applications where operating conditions are severe or where equipment must operate in extremely hot or cold climates.
- Axle assemblies and final drives in off-road construction, mining and agricultural equipment where very hot or very cold conditions are encountered.
- Extended drain gear oil applications in on-road and off-road heavy-duty equipment.
- Industrial gear applications where automotive EP gear lubricants are recommended.

**PERFORMANCE STANDARDS**

- API GL-5, MT-1
- Dana (Roadranger®) SHAES-256 Rev C Extended Drain (SAE 75W-90 approved), SHAES 429 Extended Drain (SAE 75W-90 approved)
- Mack GO-J Plus (SAE 75W-90 grade approved)
- Meritor O-76N Extended Drain (SAE 75W-90 approved)
- SAE J2360 (approved)
- Scania STO 1:0

**PACK SIZES**

SAE	75W-90	80W-140
205L		✓
200L	✓	
20L	✓	✓

**SYNTHETIC GEAR LUBRICANT FM**  
EXTREME PRESSURE AUTOMOTIVE SYNTHETIC GEAR OIL

**SAE 75W-140** | **PRODUCT CODE:** 3083

**PACK SIZES:** 208L, 20L

Synthetic extreme pressure (EP) gear lubricant incorporating a friction modifier. It is designed to meet the synthetic gear oil specifications of automotive manufacturers such as Ford and General Motors Holden. Synthetic Gear Lubricant FM 75W-140 offers good high-temperature stability and load carrying capacity combined with good low temperature fluidity. It has outstanding viscosity/temperature properties and shear stability, as well as resistance to oxidation, corrosion and foaming. It is designed to meet the performance requirements of the API GL-5 classification.



**APPLICATIONS**

- The lubrication of differentials, including limited slip final drives, manual transmissions, transfer cases, gear cases and other automotive applications requiring API GL-5 SAE 75W-140 and 80W-140 oils, particularly where:
  - Severe or critical automotive gear applications are encountered involving extremely high or low temperatures and heavy loads beyond the capabilities of mineral oils.
  - Extended drain periods are required under normal operating conditions to reduce maintenance and downtime.
- It is friction-modified and is recommended for the General Motors Holden VN Commodore and later Series V8 Commodore, Calais, Statesman and Caprice, both limited slip and standard axle versions. It is also recommended for Falcon/Fairmont XR-6 and later model V8 Falcon/Fairmont/Fairlane axles.
- Recommendations for additional friction modification or specific lubricant selection for specific models should always be followed.

THUBAN® GL5 EP  
EXTREME PRESSURE AUTOMOTIVE GEAR OIL

SAE 80W-90	PRODUCT CODE: 2116	PACK SIZES: Bulk, 1000L, 205L, 60L, 20L, 4L.
SAE 85W-140	PRODUCT CODE: 2117	SAE 80W-90 also available in 1L.

Delo® Gear EP-S will supersede Thuban® GL5 EP in 2016.

High-performance, multipurpose, thermally stable, extreme pressure (EP) automotive gear lubricant formulated with “clean gear” technology for applications where API GL-5 and/or API MT-1 performance is required.



APPLICATIONS

- Automotive hypoid gear differentials operating under high-speed and/or low-speed, high-torque conditions where API GL-5 performance gear oils are required or permitted.
  - Heavy-duty, non-synchronised manual transmissions where API MT-1 performance gear oils are specified.
  - Automotive steering gears where API GL-5 performance gear oils are permitted.
- Not recommended for manual transmissions other than as mentioned above except where the manufacturer explicitly allows the use of API GL-5 performance oils.
- See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- API GL-5, MT-1
- Mack GO-J Approval
- US MIL-L-2105D; MIL-PRF-2105E
- SAE J2360

DELO® GEAR ESI  
EXTREME PRESSURE, EXTENDED DRAIN AUTOMOTIVE GEAR OIL

SAE 80W-90	PRODUCT CODE: 2876	PACK SIZES: 205L, 20L
------------	--------------------	-----------------------

Multipurpose automotive extreme pressure (EP) gear lubricant, also suitable for many industrial applications. Formulated with ISOSYN® technology, a combination of special base oils and an EP additive system incorporating inorganic borate technology, to provide oil life and wear protection far exceeding conventional gear oils under extreme service conditions.



APPLICATIONS

- Automotive differentials operating in severe service conditions. Particularly recommended for heavy-duty road transport axes exposed to extreme loads and temperatures.
- Heavy-duty transmissions where the manufacturer recommends the use of API GL-5 or MT-1 gear lubricants.
- Extended drain gear oil applications in on-road and off-road heavy-duty equipment.
- Industrial gear sets and bearings where EP type gear lubricants of this viscosity are recommended.

PERFORMANCE STANDARDS

- API GL-5 (self-certified), MT-1 (self-certified)
- SAE J2360 (approved and listed)
- Meritor O-76Q, O-76R Extended Drain (approved and listed)
- Mack GO-J Plus Extended Drain (approved and listed)
- Mack GO-J (approved and listed)

RPM BORATE® EP LUBRICANT 150 – 680  
EXTREME PRESSURE GEAR OIL

ISO Grade	150	220	320	460	680
Product Code	1340	1341	1342	1343	1345

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

Multipurpose automotive extreme pressure (EP) gear lubricant which is also suitable for many industrial applications. Contains a Borate EP additive system and supplemental anti-wear agent to provide wear protection superior to conventional EP gear lubricants. Also contains oxidation, corrosion and foam inhibitors. A problem solver for severe gear lubrication applications.



APPLICATIONS

- Automotive differentials and gear cases operating under severe service conditions. Particularly for off-highway and heavy-duty trucking fleets.
- Heavy-duty transmissions where manufacturers recommend API GL-5 lubricants. May also be used in transmission applications where non-EP lubricants are normally recommended.
- Industrial enclosed gears operating under severe conditions, including steel-on-bronze worm gears.
- Drive and reduction gearboxes on mills, mixers, crushers, extruders, kilns, stenters, pumps and hoists.

Not recommended where excessive water contamination is likely to occur.

PERFORMANCE STANDARDS

- API GL-5, GL-4 and GL-2
- U.S. Military MIL-L-2105D (ISO 150)
- David Brown Table E Approved: 4E to 7E (ISO 150 to 460)

PACK SIZES

ISO	150	220	320	460	680
1000L				✓	
205L	✓	✓	✓	✓	
20L	✓	✓	✓	✓	✓

GEAR OIL LSD  
AUTOMOTIVE “LIMITED SLIP” GEAR OIL

SAE 90	PRODUCT CODE: 1835	PACK SIZES: 1000L, 205L, 20L.
SAE 140	PRODUCT CODE: 2700	SAE 90 is also available in bulk, 60L and 1L.

*Geartex LSD will supersede Gear Oil LSD in 2016.*

High-performance, EP automotive gear oil specifically designed for Borg Warner limited slip rear drive differentials, particularly those of the cone clutch design. Its special friction properties provide smooth, noise free operation and extended life of these units.



APPLICATIONS

- Older Borg Warner limited slip differentials, including those with hypoid gears, as fitted to cars, and light trucks.
- Other limited-slip differentials where oils meeting Borg Warner 5M-31 are specified.

PERFORMANCE STANDARDS

- API GL-5 (self-certified)
- Borg Warner 5M-31 (obsolete)

**TORQUE FLUID 414, 414 DYED BLUE, 434, 434 DYED BLUE, 454, 464**  
**HEAVY-DUTY POWERSHIFT TRANSMISSION FLUID SERIES**

Product	414	414 Dyed Blue	434	434 Dyed Blue	454	464
Product Code	2711	2886	2119	3030	2120	2712
SAE	10W	10W	30	30	50	60

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

*Delo® TorqForce SAE 10W, 10W (Dyed Blue), 30, 30 (Dyed Blue), 50, 60 will supersede Torque Fluid 4n4 range in 2016.*



Non-friction-modified, heavy-duty transmission fluid series designed primarily for powershift transmissions and final drives requiring Caterpillar TO-4 fluids.

**APPLICATIONS**

- Caterpillar powershift transmissions, final drives and marine transmissions.
- Komatsu powershift transmissions.
- Caterpillar mobile equipment hydraulic and hydrostatic systems.
- Mobile hydraulic systems, hydrostatic transmissions, heavy-duty manual transmissions and final drives for which heavy-duty engine oils are specified.

The viscosity grade should be selected in accordance with OEM recommendations concerning temperature and operating severity.

See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

- Caterpillar TO-4: 414, 434, 454
- Eaton Fuller/Roadranger Manual Transmissions: 434, 454
- Komatsu KES 07.868.1: 434
- Meritor (Rockwell) Manual Transmissions: 454
- Volvo 97305-90 Approval: 454
- ZF TE-ML 03C Approval: 414: Reference ZF000797, 434: Reference ZF000798
- ZF TE-ML 07F Approval: 434: Reference ZF000798

Note: For greater visibility, blue dyed versions of Torque Fluids 414 and 434 are available in bulk under product codes 2886 and 3030 respectively.

**PACK SIZES**

Product	414	414 Dyed Blue	434	434 Dyed Blue	454	464
Bulk IBC Pumpout			✓		✓	
Bulk	✓	✓	✓	✓	✓	✓
1000L	✓		✓		✓	✓
205L	✓		✓			✓
20L	✓		✓		✓	

FINAL DRIVE  
HEAVY-DUTY OFF-HIGHWAY FINAL DRIVE AND AXLE OIL

SAE 60 | PRODUCT CODE: 2944

PACK SIZES: Bulk, 1000L

Heavy-duty gear lubricant specifically designed for final drives and axles of modern Caterpillar off-road equipment in severe service, where fluids meeting Caterpillar FD-1 are recommended.



<b>APPLICATIONS</b> <ul style="list-style-type: none"><li>• Final drives, axles, differentials and front wheels of Caterpillar equipment where FD-1 performance fluid is specified.</li><li>• Caterpillar heavy-duty off-highway haul trucks.</li><li>• Caterpillar wheeled and track-type tractors.</li></ul> <p>Not suitable for use in compartments containing oil-immersed brakes or clutches.</p>	<b>PERFORMANCE STANDARDS</b> <ul style="list-style-type: none"><li>• Caterpillar FD-1</li></ul>
--	---

TEXTRAN® TDH PREMIUM  
UNIVERSAL TRACTOR TRANSMISSION OIL

PRODUCT CODE: 2069

PACK SIZES: 1000L, 205L, 20L, 4L

Textran® TDH Premium is a premium multi-functional universal tractor transmission oil (UTTO) for use in transmissions, final drives and hydraulic systems of modern farm and industrial wheel and crawler tractors and off-road equipment where fluids meeting major UTTO specifications are recommended.



<b>APPLICATIONS</b> <ul style="list-style-type: none"><li>• Where tractor manufacturers specify the use of a UTTO type product.</li><li>• Mixed fleets of agricultural tractors and associated off-road equipment.</li><li>• Tractor transmissions and hydraulic systems</li><li>• Enclosed oil immersed (wet) brakes.</li><li>• Power take off (PTO) clutches.</li></ul>	<b>PERFORMANCE STANDARDS</b> <ul style="list-style-type: none"><li>• API GL-4</li><li>• Hitachi (approved for use in middle-sized wheel loader axles)</li><li>• John Deere J20C (self-certified)</li><li>• Massey Ferguson M1145 (approval planned)</li><li>• Volvo WB101 (Volvo Standard 1273.03) (approved)</li><li>• ZF TE-ML 03E, TE-ML 05F, TE-ML 06K, TE-ML 17E, TE-ML 21F (approved, reference 000820)</li></ul> <p><b>Suitable for use where the following are specified:</b></p> <ul style="list-style-type: none"><li>• Case New Holland MAT 3525</li><li>• Ford New Holland FNHA 2-C-201</li><li>• Ford ESN-M2C134-D, ESEN-M2C86-B</li><li>• Massey Ferguson CMS M1143, M1141, M1135</li></ul>
---	---

SUPER TRACTOR

SUPER TRACTOR OIL UNIVERSAL

SAE 15W-40 | PRODUCT CODE: 2710

PACK SIZES: 1000L, 205L, 20L

Shear stable, multigrade super tractor oil universal (STOU) fluid for tractor crankcases, transmissions including wet brakes, final drives and hydraulic systems where STOU-type API CF-4/SF and API GL-4 fluids are recommended.



APPLICATIONS

- Where tractor manufacturers specify the use of an STOU type product.
- Mixed fleets of agricultural tractors and associated equipment.
- Enclosed oil immersed (wet) brakes.
- Power take off (PTO) clutches.

PERFORMANCE STANDARDS

- API CF, CF-4/SF
  - API GL-4
  - ZF TE-ML 06B, TE-ML 07B (approved and listed, reference 000789)
- Suitable for use where the following are specified:
- Ford ESN-M2C159-B2, -B3
  - Ford New Holland FNH 820092102, 890092103
  - New Holland NH 024C
  - Massey Ferguson CMS M1144

# AUTOMOTIVE SPECIALITIES





# AUTOMOTIVE SPECIALITIES



ADBLUE®	49
BRAKE AND CLUTCH FLUID	49
CALTEST	50
TECHRON® 5000	50
VORTEX DIESEL INJECTOR CLEANER	51

**ADBLUE®**  
AQUEOUS SOLUTION OF UREA

**PRODUCT CODE:** 3045, 3183

**PACK SIZES:** 1000L, 210L, 10L

**APPLICATIONS**

- Certain vehicles and equipment fitted with Selective Catalytic Reduction (SCR) systems.

**PERFORMANCE STANDARDS**

- ISO 22241
- DIN 70070 AdBlue
- Complies with CEFIC regulations



**BRAKE AND CLUTCH FLUID**  
BRAKE FLUID

**PRODUCT CODE:** 1287

**PACK SIZES:** 20L, 4L, 1L, 500mL

A moisture-resistant high-performance disc and drum brake fluid. Coloured green.

**APPLICATIONS**

- All hydraulically operated motor vehicle braking systems (drum and disc types) for which a DOT 4 or SAE J1704 fluid is specified.
  - Make-up or service fill of braking systems requiring DOT 3 or SAE J1703 fluids (unless the OEM specifically recommends against the use of DOT 4 fluids, e.g. Toyota [for certain models]).
  - Hydraulic clutch systems requiring conventional fluids.
- Not to be used in systems designed for mineral oil or silicone based fluids, e.g., certain construction, farm, firefighting equipment, certain Citroen models, or where Silicone DOT 5 fluids are recommended.

**PERFORMANCE STANDARDS**

**Meets all the major manufacturers' specifications including:**

- AS/NZS 1960.1:2005 Grade 3
- FMVSS No. 116 DOT 4
- Ford ESZ-M6C-55A
- GM HN 1796
- ISO 4925 Classes 3 and 4
- SAE J1703, J1704



CALTEST  
LUBRICANT ANALYSIS SERVICE

Caltest Laboratory	NSW	QLD	WA
Product Code	3350	3353	2594

**PRODUCT CODE:** Refer to table above. **PACK SIZES:** Carton of 10 sample kits (Express Post)

A sophisticated, rapid oil analysis early warning system which has been developed to diagnose impending equipment problems before potentially serious damage occurs.

APPLICATIONS

- A representative sample of the lubricant is drawn from the particular compartment, and posted to the laboratory. The detailed laboratory report gives results of oil analysis and is evaluated to determine equipment wear, the condition of the oil and to indicate mechanical faults and corrective measures.
- Note: To minimise the time for samples to travel to a laboratory, Caltest is available in three variants. Each variant includes courier sample satchels labelled for delivery to one of the three Caltest Laboratories: Queensland, New South Wales and Western Australia.
- Note: Caltex offers Caltest Sample Pumps (Code 2519-610) which fit the Caltest sample bottles, are simple to use and aid clean sampling.

TECHRON® 5000  
ENGINE CLEANLINESS FUEL ADDITIVE

**PRODUCT CODE:** 1355 **PACK SIZE:** 350mL

A unique fuel system cleaning and decoking agent based on powerful cleaning additives.

APPLICATIONS

- All four-stroke petrol and light-duty direct injection diesel engine vehicles.
- Any vehicle with one of the symptomatic driveability problems such as hard starting, rough running, sluggish acceleration, surging, irregular automatic transmission shifts, reduced fuel economy or increased exhaust emissions.
- To keep the entire system clean, use every 5,000 km or when the driveability problems recur.
- To clean up a badly contaminated fuel system, more than one treatment may be required.

TREATMENT LEVEL

Pour the entire contents of one bottle (350mL) into an almost empty tank and fill the tank with up to 45L of fuel.

Provides optimum results when used at 5,000 km intervals.

Note: This product is designed to provide fuel injector and intake valve deposit clean-up performance when used in vehicles with fuel tanks of up to 45L. With larger fuel tanks (e.g., 70L) a second treatment may be required to gain the full benefits. Persistent problems may require mechanical repair. An oil change is recommended after five consecutive treatments, more frequently with smaller gasoline tank volumes.



VORTEX DIESEL INJECTOR CLEANER  
DIESEL FUEL SYSTEM CLEANER

PRODUCT CODE: 3212

PACK SIZE: 350mL

A diesel fuel treatment intended to assist removal of harmful conventional nozzle deposits as well as internal diesel injector deposits (IDIDs).

APPLICATIONS

- Four-stroke automotive diesel engines in passenger cars and trucks.
- Suitable for older technology engines as well as latest generation common rail diesel engines.
- Will not harm aftertreatment devices such as Diesel Particulate Filters (DPFs).
- Not recommended for petrol engines.

Note: Always confirm that the product selected is consistent with both the original equipment manufacturer's recommendation for the equipment operating conditions and the customer's maintenance practices.

TREATMENT LEVEL

Add one 350mL bottle to one tank (50 to 70L) of diesel fuel every 6 months / 6000 km.



# COOLANTS





# COOLANTS

DELO® ELC ANTI-FREEZE/COOLANT – PREMIXED 50/50	55
DELO® XLC ANTI-FREEZE/COOLANT – CONCENTRATE	56
HAVOLINE® XTENDED LIFE ANTI-FREEZE/COOLANT – CONCENTRATE	57
DELO® XLC ANTI-FREEZE/COOLANT – PREMIXED 50/50	57
PG LONG DRAIN COOLANT PREMIXED	58
DELO® ELI PREMIXED	58
DELO® XLI CORROSION INHIBITOR – PREMIXED	59
HAVOLINE® XTENDED LIFE INHIBITOR – CONCENTRATE	60
ANTI-FREEZE ANTI-BOIL COOLANT	60
RADIATOR PROTECTOR	61
SILICATE ADDITIVE	61
REFRACTOMETERS	61



# DELO® ELC ANTI-FREEZE /COOLANT – PREMIXED 50/50

## RADIATOR COOLANT, ANTI-FREEZE & CORROSION INHIBITOR

**PRODUCT CODE:** 2981

**PACK SIZES:** Bulk, 1000L, 205L, 20L

*Delo® ELC Anti-Freeze/Coolant – Premixed 50/50 will supersede Delo® Extended Life Coolant Premixed 50/50 in 2016.*

Premixed coolant containing ethylene glycol and based on patented aliphatic carboxylate corrosion inhibitor technology specifically formulated for heavy-duty cooling system applications that require nitrite. Red in colour.



### APPLICATIONS

- Heavy-duty engines regardless of fuel type or environmental controls being used where the OEM recommends a silicate-free, extended life coolant that contains nitrites.
  - Mixed fleets where both light-duty and heavy-duty trucks are present.
  - Stationary engine applications regardless of fuel type being used.
  - Marine cooling systems where freeze protection is needed and a nitrite containing coolant is recommended.
- Note: It is recommended that this product not be diluted with other coolant formulations by more than 25% in order to maintain performance claims. This product should be used as purchased. No dilution is recommended. Recommended maximum service intervals are:  
1,250,000 km for heavy-duty diesel, on-road.  
15,000 hours or 8 years for heavy-duty diesel, off-road.  
See Product Data Sheet for Service Considerations.

### PERFORMANCE STANDARDS

#### Meets the specifications of:

- ASTM D6210
- ASTM D3306
- Caterpillar EC-1
- Detroit Series 60 and DD15 engines per SVC BRO 0002
- Navistar B1 Type 3
- TMC RP 329, 302A, 351 (color)

#### Recommended for use in:

- Caterpillar Stationary Natural Gas Engines
- Cummins QSK, QST, ISX 15, ISX, ISM, ISL, ISC and ISB Diesel Engines
- Cummins Westport ISX 12G and ISL G CNG engines
- Deutz Stationary Diesel Engines
- Freightliner and Western Star Truck Diesel Engines
- GE – Jenbacher Stationary Natural Gas Engines

- Hino Truck Diesel Engines
- Isuzu Truck Diesel Engines
- Kenworth and Peterbilt Truck Diesel Engines
- Kobelco Construction Equipment Diesel Engines
- Komatsu Construction Equipment Diesel Engines
- MTU 4000 Diesel Engines
- Navistar Truck Diesel Engines
- Scania and MAN Truck Diesel Engines
- Volvo and Mack Truck Diesel Engines
- Wärtsilä Stationary Diesel Engines
- Waukesha Stationary Natural Gas Engines
- White-Superior Stationary Natural Gas Engines

▶ **DELO® XLC ANTI-FREEZE/COOLANT – CONCENTRATE**  
RADIATOR COOLANT, ANTI-FREEZE & CORROSION  
INHIBITOR CONCENTRATE

**PRODUCT CODE:** 3354 **PACK SIZES:** 205L, 20L

*Delo® XLC Anti-Freeze/Coolant – Concentrate will supersede Extended Life Coolant in 2016.*

A non-nitrited extended life anti-freeze coolant for heavy-duty and light-duty diesel vehicles and equipment. Formulated with an aliphatic corrosion inhibitor system. Coloured orange.



**APPLICATIONS**

- Heavy-duty engines regardless of fuel type or environmental controls being used where the OEM recommends a nitrite-free, silicate-free coolant.
- Mixed fleets where automobiles, light-duty trucks and heavy-duty trucks are being serviced and the OEM recommends a nitrite-free, silicate-free product.
- Recreational vehicles where a nitrite-free, silicate-free product is recommended.
- On-road, off-road and marine cooling system applications.

Note: This product is a concentrate and is intended to be diluted 50/50 with good quality water before use. It is recommended that the product not be diluted with other coolant formulations by more than 25% in order to maintain performance claims.

Delo® XLC Anti-Freeze/Coolant has a recommended service life of 960,000 km / 12,000 hours / 6 years.

**PERFORMANCE STANDARDS**

- Meets the specifications of:**
- ASTM D3306
  - ASTM D6210
  - DAF 74002
  - Detroit Diesel 93K217
  - MAN 324 Type SNF
  - Mercedes Benz 325.3 under DBL 7700.30
  - MTU MTL 5048
  - TMC RP 364
- Recommended for use in:**
- Deutz Stationary Diesel Engines
  - GE – Jenbacher Stationary Natural Gas Engines
  - Hino Truck Diesel Engines
  - Isuzu Truck Diesel Engines
  - Kobelco Construction Equipment Diesel Engines
  - Komatsu Construction Equipment Diesel Engines
  - MTU 2000/4000 Diesel Engines
  - Navistar™ MAXXFORCE Engines
  - Scania Truck Diesel Engines
  - Volvo Construction Equipment (VCE) Diesel Engines
  - Volvo and Mack Truck Diesel Engines
  - Wärtsilä Stationary Diesel Engines
  - European HD OEMs that require both phosphate-free and nitrite-free formulations
  - Japanese HD OEMs that require Silicate-free formulations

HAVOLINE® XTENDED LIFE ANTI-FREEZE/COOLANT – CONCENTRATE

RADIATOR COOLANT, ANTI-FREEZE & CORROSION INHIBITOR CONCENTRATE

PRODUCT CODE: 3355

PACK SIZES: 5L, 1L

Havoline® Xtended Life Anti-Freeze/Coolant – Concentrate will supersede Extended Life Coolant in 2016.

A non-nitrited extended life anti-freeze coolant for heavy-duty and light-duty diesel vehicles and equipment. Formulated with an aliphatic corrosion inhibitor system. Coloured orange.

APPLICATIONS

- Passenger car petrol and diesel engines.
- Light-duty commercial vehicle gasoline and diesel engines.

PERFORMANCE STANDARDS

Meets the specifications of:

- ASTM D3306
- Ford WSS-M97B44-D
- GM 6277
- MB 325.3
- VW TL 774F

Recommended for use in:

- General Motors vehicles post 1995
- Chrysler vehicles post 2001
- Ford Vehicles post 2003
- European gasoline and diesel automobiles
- Japanese gasoline automobiles, SUVs and pickup trucks
- Korean gasoline automobiles and SUVs

Note: This product is a concentrate and is intended to be diluted 50/50 with good quality water before use. It is recommended that the product not be diluted with other coolant formulations by more than 25% in order to maintain performance claims.

Havoline® Xtended Life Anti-Freeze/Coolant is based on a patented aliphatic organic additive formulation that provides a service life of 250,000 km/5 years and is approved under GM 6277 meeting the GM DEX-COOL® requirements. (DEX-COOL is a registered trademark of General Motors Corporation.)

DELO® XLC ANTI-FREEZE/COOLANT – PREMIXED 50/50

‘READY-TO-USE’ RADIATOR COOLANT, ANTI-FREEZE & CORROSION INHIBITOR

PRODUCT CODE: 3092

PACK SIZES: 1000L, 205L

Delo® XLC Anti-Freeze/Coolant – Premixed 50/50 will supersede Extended Life Coolant Premixed 50/50 in 2016.

A 50% dilution of Delo® XLC Anti-Freeze/Coolant – Concentrate in water.

APPLICATIONS AND PERFORMANCE STANDARDS

Refer to the details for Delo® XLC Anti-Freeze/Coolant – Concentrate.



PG LONG DRAIN COOLANT PREMIXED  
PROPYLENE GLYCOL BASED RADIATOR COOLANT,  
ANTI-FREEZE AND CORROSION INHIBITOR

PRODUCT CODE: 3221

PACK SIZES: Bulk, 1000L, 205L

PG Long Drain Coolant Premixed is a blue coloured, fully formulated hybrid (conventional and organic additive technology) propylene glycol based engine coolant. This low-silicate, phosphate- and amine-free product is recommended for use in automotive (aluminium compatible), light-duty and heavy-duty diesel applications (namely on-road truck, off-road mining, farm and marine). It provides high-temperature aluminium protection.

PG Long Drain Coolant Premixed is 50/50 premixed with water. It does not require further dilution. It does not require an initial charge of supplemental coolant additives (SCAs) upon initial fill in heavy-duty diesel applications as the product is specially formulated to protect heavy-duty diesel wet sleeve liners. SCA addition is application dependent and should only be added as, and when required by, the vehicle’s OEM.



APPLICATIONS

- Automotive (aluminium compatible), light-duty and heavy-duty diesel applications (namely on-road truck, off-road mining, farm and marine).

PERFORMANCE STANDARDS

Recommended for the following industry specifications and applications:

- |                     |                  |               |                     |
|---------------------|------------------|---------------|---------------------|
| • ASTM D6257, D6211 | • GM Heavy Truck | • MTU         | • Toyota engines    |
| • Caterpillar       | • Kenworth       | • New Holland | • TMC RP 330        |
| • Cummins           | • Landrover      | • PACCAR      | • US Federal        |
| • Detroit Diesel    | • MACK Trucks    | • Perkins     | • Volvo Heavy Truck |
| • Ford Heavy Truck  | • MAN            | • Peterbilt   | • White Star        |
| • Freightliner      | • Mercedes Benz  | • Saab-Scania |                     |

It is the responsibility of the end user to determine product suitability as recommended in the Owner’s Manual and to follow the engine manufacturer’s instructions.

DELO® ELI PREMIXED  
NITRITED WATER-BASED CORROSION INHIBITOR

PRODUCT CODE: 3280

PACK SIZES: Bulk, 1000L

A water-based long-life corrosion inhibitor, using a synergistic combination of aliphatic carboxylates that also contains nitrite and molybdate as secondary inhibitors. It is ready to use and does not require the addition of water. Red in colour.



APPLICATIONS

- A wide variety of cooling systems in industrial, marine engine, on-road, off-road and stationary applications.
- Cummins, Caterpillar, Mack, Navistar and other engine applications where a nitrite containing, silicate-free extended life coolant is specified by the manufacturer.
- Internal combustion engines regardless of fuel type, where complete cooling system protection is required but freeze protection is not required.
- Where a nitrited coolant that is not combustible is required.
- As a heat transfer fluid in circulating systems.

Recommended maximum service intervals, with yearly testing required:

1,000,000 km or 6 years.....	On-road engine
12,000 hours or 6 years.....	Off-road engine
32,000 hours or 8 years.....	Stationary engine

DELO® XLI CORROSION INHIBITOR – PREMIXED  
WATER-BASED CORROSION INHIBITOR

PRODUCT CODE: 3093

PACK SIZE: 1000L

*Delo® XLI Corrosion Inhibitor – Premixed will supersede Delo® XLI Premixed in 2016.*

Pre-diluted water-based low-toxicity readily biodegradable nitrite-free coolant and corrosion inhibitor based on extended-life organic additive Carboxylate Technology. Suitable for use in automotive cooling systems, stationary power generation engines and marine engines, where a glycol-based anti-freeze is not required. Red in colour.



APPLICATIONS

- Stationary power generation engines.
- Marine engines.
- Automotive and transport engines.
- Construction, earthmoving, mining and quarrying equipment.
- Inhibitor package for central heating systems, hydraulic safety fluids and mining fluids.

The corrosion inhibitors in Delo® XLI Corrosion Inhibitor contain a synergistic combination of mono- and di-carboxylates that provide superior protection for a minimum of 960,000 km / 12,000 hours / 6 years in on-road and off-road engine applications and 32,000 hours or 6 years in stationary engines. This product does not require regular inhibitor additions if proper maintenance practices are used.

PERFORMANCE STANDARDS

Recommended for the following OEM use as a cooling water inhibitor:

- |  |  |
|--|--|
| • Detroit Diesel                             | • Newman-Haas Racing   |
| • Deutz (TR0199-99-2091)                     | • Scania TI 2-98 0813 TB   |
| • GEC Alsthom Ruston                         | • Sulzer Diesel  |
| • Liebherr MD                                | ZBS0503.doc  |
| 1-36-130 (DCA)                               | • Ulstein Bergen   |
| • MaK  | • Wärtsilä 32-9011   |
| • MAN 248                                    | • Yanmar   |
| • MAN Diesel (2-stroke and 4-stroke engines) | • any OEM equipment recommending a nitrite-free, water-based carboxylate based corrosion inhibitor |
| • MB 312.0                                   |  |
| • MTU MTL 5049                               |  |
| • MWM  |  |

HAVOLINE® XTENDED LIFE INHIBITOR – CONCENTRATE  
WATER-BASED CORROSION INHIBITOR CONCENTRATE

PRODUCT CODE: 1602

PACK SIZE: 20L

Havoline® Xtended Life Inhibitor – Concentrate will supersede XL Corrosion Inhibitor Concentrate in 2105/16.

Environmentally sensitive, coolant and corrosion inhibitor concentrate based on extended-life organic additive Carboxylate Technology which, when mixed at 7.5% by volume with water, is suitable for use in stationary power generation, marine engine, and automotive cooling systems where glycol-based anti-freeze is not required. Red in colour.



APPLICATIONS	PERFORMANCE STANDARDS
<ul style="list-style-type: none"><li>Stationary power generation engines.</li><li>Marine engines.</li><li>Automotive and transport engines.</li><li>Construction, earthmoving, mining and quarrying equipment.</li><li>High-temperature aluminium engine blocks.</li><li>Inhibitor package for central heating systems, hydraulic safety fluids and mining fluids.</li></ul> <p>Recommended maximum service intervals, using 7.5% volume with water, are:</p> <p>250,000 km or 5 years..... Passenger car and light truck commercial vehicles.</p> <p>600,000 km or 4 years..... Heavy-duty diesel, on-road.</p> <p>8,000 hours or 4 years..... Heavy-duty diesel, off-road.</p> <p>32,000 hours..... Stationary power generation and marine engines.</p>	<p><b>Havoline® Xtended Life Inhibitor – Concentrate has a wide range of approvals and recommendations, including:</b></p> <ul style="list-style-type: none"><li>AS 2108:2004 Type B</li><li>Detroit Diesel</li><li>Deutz TR0199-99-2091 medium and large engines</li><li>Liebherr MD 1-36-130 (DCA)</li><li>MaK</li><li>MAN 248</li><li>MAN B&amp;W 2 and 4-cycle engines</li><li>Mercedes Benz trucks MB 312.0</li><li>MTU MTL 5049 Series 2000/4000 engines</li><li>New Sulzer Diesel 2-cycle engines</li><li>Ruston (MAN B&amp;W)</li><li>Ulstein Bergen 2.13.01, diesel and gas engines</li><li>Wärtsilä Diesel/gas/dual-fuel engines</li><li>Yanmar</li></ul>

ANTI-FREEZE ANTI-BOIL COOLANT  
LOW COST RADIATOR COOLANT, ANTI-FREEZE & CORROSION INHIBITOR CONCENTRATE

PRODUCT CODE: 1268

PACK SIZES: 205L, 20L, 4L, 1L

Lower cost radiator anti-freeze and cooling system treatment concentrate offering protection against freezing, boiling and corrosion. An ethylene glycol-type treatment which provides year round protection to cooling systems including water pumps, radiators and engines. For best results it is recommended for both diesel and petrol engines at 50% volume with water. It may be used at concentrations down to 35% (-19°C freezing point and 104°C boiling point) in petrol engines. Anti-Freeze Anti-Boil Coolant provides protection for up to two years. For best results, cooling systems should be re-treated with Anti-Freeze Anti-Boil Coolant annually. Coloured Green.



APPLICATIONS	PERFORMANCE STANDARDS
<ul style="list-style-type: none"><li>Automotive and transport engines.</li></ul>	<ul style="list-style-type: none"><li>AS 2108:2004 Type A</li></ul> <p>Note: A 'ready-to-use' version diluted to 33% in water, named Anti-Freeze Anti-Boil Coolant Premixed is available in 1L and 5L pack sizes under product code 3104.</p>

RADIATOR PROTECTOR  
LOW COST PREMIXED WATER-BASED CORROSION INHIBITOR

PRODUCT CODE: 2043

PACK SIZES: 5L, 1L

A pre-diluted low cost corrosion inhibitor for the radiators of cars, trucks and other water cooled petrol and gas engines. Coloured green.



APPLICATIONS

- Designed for use in situations where water quality is too poor to use a concentrate.

PERFORMANCE STANDARDS

- AS 2108:2004 Type B

SILICATE ADDITIVE

PRODUCT CODE: 3146

PACK SIZE: 236mL

Silicate Additive for Cummins Engines Only has been recommended by Cummins and Chevron® for use in selected Cummins engines that have been factory filled with Chevron® Delo® Extended Life Coolant in North America. This silicate containing additive is not recommended for use in any engine manufactured by other engine makers such as Volvo, Mack, Detroit Diesel or Caterpillar.

In Australia, Caltex recommends that this product be added to only the cooling system of selected Cummins engines (N14, M11, ISM, ISX, Signature) factory filled with Chevron® or Caltex organic additive technology coolants (e.g. Delo® ELC Anti-Freeze/Coolant, Delo® XLC Anti-Freeze/Coolant, Delo® ELI or Delo® XLI Corrosion Inhibitor) after major maintenance which has disturbed the cooling system seals.

APPLICATION AND USAGE INSTRUCTIONS

- Silicate Additive for Cummins Engines Only is a silicate containing additive to be used only for treatment of the cooling systems of selected Cummins engines (N14, M11, ISM, ISX, Signature) that have been factory filled with Chevron® or Caltex Delo® Extended Life Coolant, or filled with Caltex Delo® Extended Life Coolant after major maintenance that has disturbed the cooling system seals.
- The purpose of adding this additive to an engine cooling system is to potentially improve the seal life of the coolant passage seals in selected Cummins engines. This product is not recommended for use in any engines not built by Cummins.
- Silicate Additive for Cummins Engines Only is available only in 236mL containers and should be used based on cooling system capacity. Please check your owner's manual for the cooling system capacity of the vehicle being treated.

DIRECTIONS FOR USE

- Allow engine to cool and open coolant overflow tank.
- Add the recommended dose of Silicate Additive for Cummins Engines Only to the coolant overflow tank based on the table below. Most U.S. Class 8 trucks have cooling systems that will require addition of one x 236mL can of this product.

Treat rates for using Silicate Additive for Cummins Engines Only:

Cooling System Capacity	Silicate Additive Treat Rate
0 to 23L .....	½ Can
24 to 34L .....	¾ Can
35 to 45L .....	1 Can
46 to 61L .....	1 ¼ Can

REFRACTOMETERS

A glycol refractometer for use with ethylene glycol based coolants is available under product code 3102-601 and a Brix refractometer for use with Delo® XLI, Delo® ELI and XL Corrosion Inhibitor is available under product code 3103-601.

# **SPECIALTY LUBRICANTS**





# SPECIALTY LUBRICANTS

## SL LUBRICANTS

SL CAMLUBE	65
SL DRAG CABLE LUBE	65
SL DRILL ROD THREAD GREASE	66
SL GEAR OIL HEAVY DUTY 460, 1000, 1500	66
SL HYDRAULIC FLUID FR 46, 68	67
SL OGL 250 NC	67
SL OGL 800 – MULTI	68
SL OGL GM1000 H	68
SL OGL NA	69
SL OGL ST2000	69

## TALCOR® LUBRICANTS

TALCOR® BRB SUPER	70
TALCOR® BREAKOUT	70
TALCOR® BREAKOUT BLUE	70
TALCOR® CAM LUBE	71
TALCOR® CBR FLUID	71
TALCOR® CHAIN LUBE NF	71
TALCOR® COUPLING GREASE	72
TALCOR® CRYSTALLISER LUBE HEAVY	72
TALCOR® LP LUBE 460	72
TALCOR® MARINE WIRE ROPE COMPOUND	73
TALCOR® MILL BRASS COMPOUND	73
TALCOR® OGP-4 #000, #1	74
TALCOR® OGP-5 #1/SR1, #1/SR3	74
TALCOR® PREMIUM GEAR OIL 320, 460, 680, 1000, 1300	75
TALCOR® RC GREASE	75
TALCOR® ROCKBREAKER TACK	76
TALCOR® RUBBER GREASE	76
TALCOR® SUPER HD #1, #2	77
TALCOR® SUPER HD #1/M5, #2/M5	77
TALCOR® SUPER HD PLATINUM #1	78
TALCOR® SWR COMPOUND	78
TALCOR® TAILBAR GREASE	79
TALCOR® TT THERMAL SOFT	79

## RAILROAD SPECIALITY GREASES AND LUBRICANTS

	80
SL RAIL BIOGREASE	80
JOURNALTEX HD-C	80
TM GEAR LUBE PREMIUM	81
TORQUE FLUID 32	81

## SL Lubricants

### SL CAMLUBE MONIGHAN CAM LUBRICANT

**PRODUCT CODE:** 3195

**PACK SIZES:** 179kg, 19.9kg, 225g

SL Camlube is a Monighan cam lubricant that provides durable protection and all-season pumpability without the use of solvents. SL Camlube is specifically designed to satisfy the rigorous requirements of the Monighan cam walking mechanism.

#### APPLICATIONS

- Use in climates where winter conditions are mild. Able to be used down to -9°C.
- Lubrication of Monighan cams, which are part of the walking mechanism of Bucyrus (Caterpillar) walking Draglines of the 1500 series or earlier.
- While designed for Monighan cams, it will also provide superior wear protection in other applications where low speeds and heavy loads are encountered.



### SL DRAG CABLE LUBE DRAG CABLE LUBRICANT

**PRODUCT CODE:** 3198

**PACK SIZES:** 185kg, 15.8kg

SL Drag Cable Lube is a blend of anti-wear additives in a heavy asphaltic base. The viscosity is reduced using a solvent. After application to the rope, the solvent dries and a durable coating forms on both rope and sheave.

#### APPLICATIONS

SL Drag Cable Lube can be used to extend the life of any wire rope including hoist and drag ropes on draglines, and ropes used on cranes and mining shovels.



SL DRILL ROD THREAD GREASE

ANTI-SEIZE GREASE

PRODUCT CODE: 3196

PACK SIZE: 19.9kg

SL Drill Rod Thread Grease is an anti-seize material for use on rock drill tool joints, drill stems and couplings. SL Drill Rod Thread Grease is specifically formulated to contain no heavy metals (lead-free). It contains superior friction-reducing additives which minimise “make-up” and “break-out” torque, while reducing thread wear.

In addition, SL Drill Rod Thread Grease protects metal parts from rust and corrosion, even in adverse atmospheres. The metallic, film-forming characteristics of SL Drill Rod Thread Grease provide a protective shield against shock load and thread seizure.

SL Drill Rod Thread Grease protects against high temperatures and eliminates run-out, even under severe operating conditions. By eliminating metal-to-metal contact, SL Drill Rod Thread Grease extends the useful life of drill steel and reduces labour required for assembly and disassembly.



APPLICATIONS

- All types of rotary drilling joints: API buttress threads, square threads, high lead thread and special shouldered joints.
- Additionally, may be used on studs, bolts, fittings, pipe threads, gaskets, flanges, seals, packings, sliding surfaces and press fittings.
- An excellent lubricant for use on tappings, lathe centers, highly loaded surfaces, ways, tracks, tubular joints of all sizes and types, valve stems, tapes, sleeves, screws, drills and drawing and forming equipment.

SL GEAR OIL HEAVY DUTY 460, 1000, 1500

HIGH-PERFORMANCE GEAR OIL

ISO Grade	460	1000	1500
Product Code	3256	3218	3219

PRODUCT CODE: Refer to the table above.

PACK SIZE: 185kg

SL Gear Oil Heavy Duty is a “eutectic” type gear oil formulated for use in many gearboxes, but especially where excessive wear and short component life drive up operating costs. Inadequately lubricated gears and bearings can experience scuffing under high load. Scuffing occurs when the tips of opposing asperities momentarily weld. The anti-wear additive system used in SL Gear Oil Heavy Duty reduces scuffing by forming a protective chemical layer in the area of contact. The surfaces continue to experience high load, but rather than micro-welding, they are made smoother by the pressure.

The eutectic smoothing effect of SL Gear Oil Heavy Duty will also partially flatten pre-existing wear damage, usually within a few hundred hours of operation. Condemned equipment may stay in service indefinitely, or until a scheduled shutdown.

Pitting is also reduced by the use of SL Gear Oil Heavy Duty. Pitting is caused by metal fatigue and metal fatigue is minimised when the load is carried by a smoother surface. Some “initial pitting” may still occur when SL Gear Oil Heavy Duty is used, especially where there is misalignment.



APPLICATIONS

- Gearboxes where conventional gear oils fail.
- Gearboxes where long component life is essential.
- Gearboxes where long intervals between oil changes are unavoidable.

PERFORMANCE STANDARDS

- SL Gear Oil Heavy Duty meets the requirements of DIN 51517-3.



## SL HYDRAULIC FLUID FR 46, 68

### FIRE-RESISTANT SYNTHETIC HYDRAULIC FLUID

**PRODUCT CODE:** 3245, 3246

**PACK SIZES:** 205L, 20L

SL Hydraulic Fluid FR 46 and 68 are fire-resistant non-toxic biodegradable heavy-duty synthetic hydraulic fluids. As such they are designed to replace anti-wear mineral oil based hydraulic fluids where fire hazards exist, or in environmentally sensitive applications. They do not contain water, mineral oil or phosphate ester. SL Hydraulic Fluid FR 46 and 68 are formulated from synthetic organic esters and selected additives to provide effective hydraulic fluid performance, allowing them to be used with hydraulic components from major manufacturers.



#### APPLICATIONS

- Hydraulic fluid applications where a fire hazard exists.
- Hydraulic fluid applications that are environmentally sensitive.

## SL OGL 250 NC

### OPEN GEAR GREASE

**PRODUCT CODE:** 3182

**PACK SIZES:** 858kg, 185kg, 15.8kg

SL OGL 250 NC is an open gear grease formulated to minimise wear and provide shock load protection during typical operations. It is a black, viscous lubricant formulated with an asphaltic base and diluted with a non-chlorinated solvent for easy application by hand or through automatic lubrication systems.



#### APPLICATIONS

SL OGL 250 NC is recommended for many types of open gears, wire ropes, and cables. It can be applied by brush, swab, spray gun, or by automatic lubrication systems.

It provides lubrication for mining equipment including:

- Girth and pinion gears on rod and ball mills;
- Rack and pinion gears on shovel dipsticks;
- Swing and pinion gears on top of the lower frame of shovels and draglines, which are sometimes served with an automatic lubrication system.
- Can also be used to lubricate chains, sprockets, wire ropes and cables.

SL OGL 800 – MULTI  
OPEN GEAR LUBRICANT

PRODUCT CODE: 3197

PACK SIZES: 1250kg, 15.8kg

A high-performance extreme pressure lubricant designed for use on open gears and other highly loaded components under punishing conditions and in hostile environments.

The dark lubricating film that is formed by this product is robust and tenacious. It is easily established and highly resistant to being washed off by over-lubrication. The use of high molecular weight polymers assures adhesion of solid lubricants to the component and long lubrication intervals. The product will not be removed from shovel dipper sticks by wet or freezing conditions.



APPLICATIONS

- Lubrication of open gears found on draglines, shovels, grinding mills, kilns, and similar equipment.
- Heavily loaded bushings.
- Exposed parts on mining equipment such as swing racks, house rails and rollers, shovel dipper sticks, and drum laggings.
- Slow-moving bearings and propel bushings.

PERFORMANCE STANDARDS

- Meets the requirements of:
- Bucyrus International specification SD4713
  - P&H Material Specification #520 for multiservice lubricants

SL OGL GM1000 H  
HIGH-PERFORMANCE GEAR OIL

PRODUCT CODE: 3290

PACK SIZE: 1250kg

Formulated for open gears and other severe applications on draglines, mining shovels, ball mills and kilns. Contains a high molecular weight polymer extender that resists drying, oxidation, and thermal decomposition. The blend of solid and oil-soluble anti-wear additives provides load carrying ability and wear resistance. The lithium thickener structure inherently resists emulsification with water and provides mechanical and thermal stability. The low-temperature capabilities allow the lubricant film to maintain its adhesive characteristics and durable protection under demanding conditions. Meets the requirements of Caterpillar (formerly Bucyrus International) specification SD 4713.



APPLICATIONS

- Recommended for a variety of applications on mining draglines and shovels including open gears, sticks, circle rails and rollers, bushings, and large, heavily loaded bearings.
- Also highly recommended for use on open gears of kilns and ball mills.
- Listed by Komatsu for use in swing circle open gear lubrication.

PERFORMANCE STANDARDS

- Meets the requirements of:
- Caterpillar (formerly Bucyrus International) specification SD 4713

## SL OGL NA OPEN GEAR LUBRICANT

**PRODUCT CODE:** 3236

**PACK SIZE:** Bulk

SL OGL NA is an asphalt-free open gear lubricant for use in heavily loaded gears such as kilns and ball mills. Instead of asphalt (bitumen), SL OGL NA contains a blend of high-viscosity petroleum distillate, synthetic polymer and resins. The advantage over asphalt is that the spent lubricant does not harden over time, greatly simplifying cleanup.

Inadequately lubricated gears can experience scuffing (momentary welding of opposing asperities) under high load. SL OGL NA creates an effective layer of chemical and physical protection that impedes scuffing. With this protective layer in place, the high load on the gears causes the asperities to be pushed down, thus smoothing them with minimal removal of metal. The smoothing effect will also partially flatten out pre-existing wear damage within a few hundred hours of operation.

SL OGL NA also combats pitting. Pitting, which is caused by metal fatigue, is minimised when the load is borne by smoother surfaces.



### APPLICATIONS

- Heavily loaded open gears such as kilns and ball mills.
- Where lubricant meeting the specifications of major OEMs, including Falk and Metso Minerals, is required.
- Suitable for use in airless spray systems.
- Do not use with NBR rubber seals. Viton® is recommended.

### PERFORMANCE STANDARDS

**Meets the specifications of major OEMs including:**

- Falk
- Metso Minerals

## SL OGL ST2000 OPEN GEAR LUBRICANT

**PRODUCT CODE:** 3243

**PACK SIZE:** Bulk, 1250kg, 190kg

A multiservice lubricant for use on draglines. It forms a protective coating on metal without the use of asphalt, solvents or lead. It contains graphite and molybdenum disulfide. With some specialised chemistry these solid lubricants bond with the metal surface to form a dense grey-coloured film which reduces metal-to-metal contact and wear.



### APPLICATIONS

- Open gears.
- Exposed parts on mining equipment such as swing racks, house rails and rollers, wire ropes, and drum laggings.
- Many heavily loaded bushings including those on pneumatic hammers.
- Heavily loaded bearings operating at or below a speed factor of 150,000 DN.
- Sealed pins and bushings of crawler tracks.
- Enclosed gear cases where the lubricant is not filtered or circulated by a pump. (Please consult Caltex representative prior to use in bearings or enclosed gear cases).

Talcor® Lubricants

TALCOR® BRB SUPER  
BALL AND ROLLER BEARING GREASE

PRODUCT CODE: 3342	PACK SIZE: 125cc
--------------------	------------------

A blend of specially selected base oils, a shear stable lithium-based thickener and the Talcor® additive system designed to enhance load carrying capacity and anti-wear performance. This grease can be used as “full pack” into bearings with suitable housings to seal out contamination. Effective water and rust resistance makes Talcor® BRB Super ideal as a slurry pump bearing grease. Tackiness agent protects grease from pound out or splatter under high-speed vibrational loads. Cohesive properties provide resistance to churning action of grease away from ball or roller path.

- APPLICATIONS
- “Permanently” lubricated ball and roller bearings.
  - Electric motor bearings, couplings.
  - Bearings subject to vibration.

TALCOR® BREAKOUT  
ANTI-SEIZE COMPOUND

PRODUCT CODE: 3297	PACK SIZES: 180kg, 20kg
--------------------	-------------------------

Combination of highly refined paraffinic and synthetic base oils with shear stable complex soap and adhesive components. Ensures consistent film build-up even under severe loads and conditions. Stable anti-weld fillers to provide breakout properties over extended periods without additional lubrication.

- APPLICATIONS
- Drill rods, tubes and flanges that are constantly connected and disconnected.



TALCOR® BREAKOUT BLUE  
ANTI-SEIZE COMPOUND

PRODUCT CODE: 2819	PACK SIZES: Bulk, 180kg, 20kg, 2.5kg
--------------------	--------------------------------------

Anti-seize compound with a distinctive blue colour. Uses stable anti-weld fillers and highly refined, high-viscosity base stocks bound with a high melt complex thickener.

- APPLICATIONS
- Drill rods, tubes and flanges that are constantly connected and disconnected.





## TALCOR® CAM LUBE WALKING CAM LUBRICANT

**PRODUCT CODE:** 2788

**PACK SIZES:** 200kg, 180g

Solvent-free blend of petroleum and synthetic base stocks, compounded with chemical and solid anti-weld/anti-wear additives. It is free of solvent, bitumen and heavy metals. Pressure polymerizing base fluid cures to a tough lubricating film which resists melting and squeezing out; yet the unworked cam lube remains grease-like for easy clean-up. Additives produce an active lubricating film, which greatly reduces stick/slip vibration between cam and rail.

### APPLICATIONS

- Draglines and diggers having walking cam mechanisms e.g. walking draglines.
- Exceptionally heavily loaded, slow moving open gears.

Note: Not recommended for use in journal or roller bearings.



## TALCOR® CBR FLUID WIRE ROPE AND CHAIN OIL

**PRODUCT CODE:** 3298

**PACK SIZE:** 900kg

Quality wire rope and chain oil manufactured from a highly refined base oil and blended with the Talcor® additive package. The high penetration gives functional lubrication to internal rope wires as well as pins and bushes in roller chains. Does not swell or degrade conveyor belts or seals.

### APPLICATIONS

- Drive ropes on cable belt conveyors and chains.



## TALCOR® CHAIN LUBE NF CHAIN OIL

**PRODUCT CODE:** 3299

**PACK SIZES:** 900kg, 25L

Chain oil with non-flammable base fluid. A blend of synthetic aqueous fluids, colloiddally dispersed microfine graphite and heat stabilised surfactants. Synthetic base stocks quickly penetrate into chain working parts to form a dry lubricant film. The proprietary additive technology builds viscosity to avoid dripping and fling-off during application.

### APPLICATIONS

- High-temperature flammable situations where there is a potential risk of fire and/or noxious fumes, from conventional based lubricants.
- Used in the cement industry.



TALCOR® COUPLING GREASE  
COUPLING GREASE

PRODUCT CODE: 3303

PACK SIZES: 180kg, 20kg

Lithium-based grease, formulated with high-viscosity petroleum base oil, fortified with tackifiers, polymers and other additives, blended into a stable soap base. Provides positive lubrication in couplings, reducing wear and extending lubricant and coupling life. Polymers ensure lubricant will stay in the coupling, even at high speeds. Specific manufacturing and dispensing techniques of coupling grease thickener resists oil separation due to centrifugal forces. Cohesive nature of the lubricant resists pound out, wash out and splatter under the heaviest load.

APPLICATIONS

- Gearflux couplings where extended lube cycles are required.
- Couplings where sealing is poor and/or contamination from dust and water is a problem.



TALCOR® CRYSTALLISER LUBE HEAVY  
CRYSTALLISER WORM DRIVE LUBRICANT

PRODUCT CODE: 3305

PACK SIZES: 180kg, 20kg

Reactive hydrocarbon adhesive components and lubrication solids in a blend of synthetic base oil designed to provide consistent film strength under severe sliding loads generated by steel-on-steel worm gear drives. It will transfer readily from sump to worm drive and remain on gearwheel surfaces after sliding engagement action. Synthetic polymers provide excellent adhesion.

APPLICATIONS

- Steel-on-steel worm drives as found in the sugar industry crystalliser process machinery.

Note: Not to be used for general purpose greasing.



TALCOR® LP LUBE 460  
GEAR LUBRICANT

PRODUCT CODE: 3312

PACK SIZES: 20L, 18L

Semi-fluid lubricant fortified with shear unstable synthetic thickeners and the Talcor® additive system which provides anti-wear and shock loading protection. Where leaking gear oil is a problem Talcor® LP Lube will reduce the rate of leakage. Polymer additives incorporated in the package have the ability to enhance seal life.

APPLICATIONS

- Gearboxes where shaft seals are worn or inadequate.
- Worm drive gearboxes.
- Journal and sleeve bearings requiring oil lubrication.



## TALCOR® MARINE WIRE ROPE COMPOUND

### WIRE ROPE LUBRICANT

**PRODUCT CODE:** 3313

**PACK SIZES:** 180kg, 20kg

Non-toxic marine wire rope and open gear lubricant formulated to meet OECD toxicity compliance EL50 while delivering the performance of a conventional lubricant with minimal impact on marine environments. Non-toxic in aquatic environments. Offers extreme pressure performance, special additives to assist in applications where shock loading is present and good anti-rust, anti-corrosion and adhesive properties to prevent splatter and fling-off.

#### APPLICATIONS

- Wire ropes, sheaves, slipways, guides, winch gearboxes and cranes as found on equipment used in fresh and salt water environments.



## TALCOR® MILL BRASS COMPOUND

### SUGAR MILL CRUSHER LUBRICANT

**PRODUCT CODE:** 3314

**PACK SIZES:** Bulk, 180kg

A chemical resistant thickening system reinforced with soft laminar solids and plastisols and compounded with unreacted polymers in a synthetic base oil system. Sugar cane juice contamination has no detrimental effect on the performance. The inert formulation will not react with copper alloys or lube system componentry. Solvent-free and can be dispensed at sub-zero temperatures, without heating. Complexing of micro-coupling agents and plastisols preferentially adsorbs the product to copper and its alloys.

#### APPLICATIONS

- Sugar mill crusher roll journal bearings and any other slow rotating heavily loaded steel-on-brass or steel-on-white metal journal bearings.

Note: Not recommended for use in high-speed journal or anti-friction bearings.



TALCOR® OGP-4 #000, #1

OPEN GEAR LUBRICANT

#000 | PRODUCT CODE: 3318

#1 | PRODUCT CODE: 3319

PACK SIZES: Refer to the table below.

An advanced Open Gear Lubricant consisting of a solvent-free blend of synthetic polyol esters and hydro-treated mineral oils complexed with new microground lubricating solids and plastic-coupling chemical agents that form a thixotropic matrix.



APPLICATIONS

- Open gears, racks and pinions, dipper sticks, circle rollers and rails and other mechanisms that are found in the mining, steel, cement, sugar and other heavy industries.
- Gears and pinions that operate at elevated temperatures of up to 85°C.
- OGP-4 #000 is suitable for use in grinding mills.

Note: Not recommended for use in high-speed journal or roller bearings.

PACK SIZES

NLGI	#000	#1
Bulk		✓
1250kg		✓
180kg	✓	✓
20kg		✓
450g		✓
300g		✓

TALCOR® OGP-5 #1/SR1, #1/SR3

OPEN GEAR LUBRICANT

#1/SR1 | PRODUCT CODE: 3320

#1/SR3 | PRODUCT CODE: 3321

PACK SIZES: Bulk, 180kg

An easy flowing compound blended with highly refined base oils and high lubricity fillers and performance-enhancing additives. Free of solvent, bitumen and heavy metals, the product can be dispensed without heating, through conventional spray lubricating systems. High-performance in Four Ball Weld test and FZG test, thus providing lubrication under boundary conditions. Will not harden in the gear teeth roots and drains readily. Chemical and solid additives produce a durable lubricating film, reducing consumption and protecting the gears over longer spray intervals. The base fluid viscosities of SR1 and SR3 are 1,860 and 3,600 mm²/s at 40°C respectively.



APPLICATIONS

- Heavily loaded, slow moving open gears, bushes and roller bearings, racks and pinions, dipper sticks, circle rollers and rails and other mechanisms that are found in the mining, steel, cement, sugar and other heavy industries.
- Gears and pinions that operate at elevated temperatures up to 85°C.

Note: Not recommended for use in high-speed journal or roller bearings.

PERFORMANCE STANDARDS

- Bucyrus International specification for OGL-Open Gear Lubricant (SD4713) prior to 2011 (Talcor® OGP-5 #1/SR1).
- Bucyrus International specification for OGL-Open Gear Lubricant (SD4713) including Electric Shovel Hoist Drum gearing applications (Talcor® OGP-5 #1/SR3).

**TALCOR® PREMIUM GEAR OIL 320, 460, 680, 1000, 1300**  
INDUSTRIAL GEAR OIL WITH MoS<sub>2</sub>

ISO Grade	320	460	680	1000	1300
Product Code	3325	1655	3326	3323	3324

**PRODUCT CODE:** Refer to the table above.

**PACK SIZES:** Refer to the table below.

Formulated from highly refined, high-viscosity index paraffinic base stocks incorporating additives that provide anti-wear performance and protection against rust and corrosion, resistance to foaming and oxidation stability. Special Additive System provides a super fine micron plating finish to working surfaces, thereby reducing cold welding. A polymeric additive maintains viscosity and resists surging pressures. The tenacious oil film minimises frictional temperature rises, thereby reducing sludge formation. The high-viscosity index ensures minimum viscosity change with temperature.



**APPLICATIONS**

- Industrial/mining enclosed gearboxes and bearings: spur, helical, double helical, worm straight bevel and spiral bevel gearing.

Note: For optimum performance any previous oil and sludge contamination should be completely removed before filling with Talcor® Premium Gear Oil. Check all filters and circulating systems for cleanliness and filter size. Talcor® Premium Gear Oil contains dispersed molybdenum disulphide with particle size up to 1.4 µm.

**PACK SIZES**

ISO	320	460	680	1000	1300
1000L				✓	✓
205L	✓	✓	✓		✓

**TALCOR® RC GREASE**  
NON-MELT GREASE

**PRODUCT CODE:** 3327

**PACK SIZE:** 180kg

A blend of highly refined paraffinic base oils fortified with polymers and thickened with a shear stable non-melt grease enhanced with the Talcor® additive system that elevates application temperature and promotes anti-wear, anti-rust and oxidation inhibiting characteristics. Non-melt thickener gives high drop point and high service temperature. Polymers impede wash out, pound out or splatter under high loads and vibration. Solid lubricants protect against boundary lubrication conditions that occur with high loads and vibration. The bonding and cohesive properties provide lubricant retention in bushes/threads/bearings and raceways.

**APPLICATIONS**

- Elevated temperatures.
- Tool bushes in rock breaker hammers.
- Pneumatic or hydraulic percussion equipment where temperatures and vibrations are high.
- Winch gears.
- Kiln car bearings.



TALCOR® ROCKBREAKER TACK  
ROCKBREAKING AND DRILLING GREASE

PRODUCT CODE: 3328

PACK SIZES: 180kg, 450g

Highly refined paraffinic base oils coupled with a high-temperature inorganic thickener system and performance enhancing additives providing pumpability in centralised lubrication systems, high-temperature protection up to 260°C, water resistance, load carrying, adhesion under high-loads and elevated temperatures and extended hammer life.

APPLICATIONS

- Mechanical top hammer rock breaking and drilling machinery.



TALCOR® RUBBER GREASE  
RUBBER GREASE

PRODUCT CODE: 3331

PACK SIZES: 180kg, 20kg

Talcor® Rubber Grease is made using a proprietary biodegradable oil and an inorganic thickener. It does not affect 'O' ring or seal qualities, may be used with a wide range of rubbers and plastics, inhibits drying and cracking of 'O' rings and seals, inhibits corrosion and allows easy assembly or disassembly of pneumatic or hydraulic equipment.

APPLICATIONS

- Pneumatic or hydraulic componentry containing 'O' rings and seals.
- Rams or cylinder seals.
- Lubrication of plastic bearings and bushes.



## TALCOR® SUPER HD #1, #2 INDUSTRIAL PLANT LUBRICATION GREASE

#1 | **PRODUCT CODE:** 3332  
#2 | **PRODUCT CODE:** 3334

**PACK SIZES:** Bulk, 1250kg, 180kg, 20kg, 450g.  
#2 also available in 125cc.

A blend of high-viscosity petroleum base oils with shear stable lithium mixed soap thickeners and fortified with special synthetic polymers. The additive package provides protection against wear and rust and oxidation-inhibiting properties. Solids are pre-activated to increase their natural positive affinity to metal surfaces to ensure lubrication during frequent start-ups, slow speeds or heavy loads. Polymers inhibit wash out, pound out or splatter under heavy loads or vibration. Bonding and cohesive properties provide lubricant retention in bearings. Incorporated fluid plastisols provide protection and increased life for seals. Exhibits good pumpability over a wide temperature range and may be dispensed by conventional automatic systems where required.



### APPLICATIONS

- General plant lubrication: ball and roller bearings, bushings, screws, chassis, slides, and ways where loads are high and speeds are low.
- All weather heavy-duty service for mining, cement, steel, construction and transport industry.
- Lubrication of pins and bushings, as defined by the equipment manufacturer.

### PERFORMANCE STANDARDS

- Bucyrus International specification for MPG-Multi-Purpose Grease (SD4711) (meets performance requirements of)

## TALCOR® SUPER HD #1/M5, #2/M5 INDUSTRIAL PLANT LUBRICATION GREASE

#1/M5 | **PRODUCT CODE:** 3333  
#2/M5 | **PRODUCT CODE:** 3335

**PACK SIZES:** Bulk, 1250kg, 180kg.  
#2/M5 also available in 20kg.

A blend of high-viscosity petroleum base oils with shear stable lithium mixed soap thickeners and fortified with special synthetic polymers and a finer particle size of MoS<sub>2</sub>. The additive package provides protection against wear and rust and oxidation-inhibiting properties. Solids are pre-activated to increase their natural positive affinity to metal surfaces to ensure lubrication during frequent start-ups, slow speeds or heavy loads. Polymers inhibit wash out, pound out or splatter under heavy loads or vibration. Bonding and cohesive properties provide lubricant retention in bearings. Incorporated fluid plastisols provide protection and increased life for seals. Exhibits good pumpability over a wide temperature range and may be dispensed by conventional automatic systems where required.



### APPLICATIONS

- General plant lubrication: ball and roller bearings, bushings, screws, chassis, slides, and ways where loads are high and speeds are low.
- All weather heavy-duty service for mining, cement, steel, construction and transport industry.

### PERFORMANCE STANDARDS

- Bucyrus International specification for MPG-Multi-Purpose Grease (SD4711) (meets performance requirements of)
- Komatsu Mining Germany (Super HD #2/M5) (approved)

TALCOR® SUPER HD PLATINUM #1  
INDUSTRIAL PLANT LUBRICATION GREASE

PRODUCT CODE: 3359

PACK SIZES: Bulk, 1250kg, 180kg

A special grease formulated for severe applications that are subject to high temperatures, extreme pressure, shock loads and water wash out conditions. It is formulated with blend of heavy synthetic base oils and a shear stable Lithium Complex Soap. Extreme pressure additives reduce wear rates and extend component life. Long lubricant film retention reduces consumption rates. The high base oil viscosity results in a thicker lubrication film. Designed for self-sealing protection, to keep lubricant in and contamination out. Can be dispensed by conventional centralised auto-lube systems.



APPLICATIONS

- Severe applications as found in pin and bushes, screws, chassis, slides, slow large plain and roller bearings subject to either high loads, temperatures, shock/vibration, wet and/or dusty environment requiring tenacious sealing.
- Applications where re-lubrication intervals may not be adhered to, or are infrequent.
- Typical industries are mining, quarry, cement, steel, sugar, construction and transport.

PERFORMANCE STANDARDS

- Komatsu Mining Germany Works Standard (meets performance requirements of)

TALCOR® SWR COMPOUND  
WIRE ROPE LUBRICANT

PRODUCT CODE: 1657

PACK SIZE: 200L

Formulated with anti-drip/non-fling-off wax polymers and fortified with penetrating anti-rust and lubricity additives. The wax/polymer formulation allows flexibility to external coatings. The high treat level of anti-rust additives eliminates corrosion problems in the harshest environments. The low-viscosity base fluid, coupled with penetrating agents, provides internal penetration and protection to ropes. Thixotroping agents minimise dripping and fling-off.



APPLICATIONS

Running and standing wire ropes in harsh environments as found in:

- Mining – winders, standing and suspension wire ropes.
- Marine – port cranes, ship yards and transport plus winch loading wire ropes.
- Exploration – onshore and offshore wire ropes.
- Construction and Industrial – all exposed wire ropes or metal surfaces.

Note: Volatile hydrocarbons are present. Use in well ventilated areas.



**TALCOR® TAILBAR GREASE****DRIVESHAFT AND TAILBAR COUPLING GREASE****PRODUCT CODE:** 3337**PACK SIZES:** 180kg, 20kg

A combination of low-friction lubricating solids, soft resin fillers, adhesive copolymers, rust and corrosion inhibitors, blended into a non-melt thickening system. The product contains no metallic solids or fillers. Polarised additives create a tough coating on all high frictional surfaces. The non-melt thickener provides good stability at temperatures up to 250°C. Soft grease consistency provides pumpability over a wide temperature range. Effective water resistance promotes corrosion protection for internal coupling surfaces.

**APPLICATIONS**

- Drive shaft box and tailbar couplings, as found in the sugar industry.

**TALCOR® TT THERMAL SOFT****HIGH-TEMPERATURE BALL AND ROLLER BEARING GREASE****PRODUCT CODE:** 3341**PACK SIZES:** 18kg, 250cc

Extreme temperature grease-type lubricant which contains no metallic solids or silicone fluids. Compounded reactive polymers maintain a stable viscosity over a wide temperature range. Suitable for constant operating temperature of 220°C with increases up to 320°C for short periods of time. Will not melt, drip or run out during application as reactive polymers increase adhesion to hot metal, thereby ensuring positive lubrication at high temperatures. Good water wash characteristics, even when subjected to hot water, steam or mild detergents. May be used in glands and slow moving bearings at sub-zero temperatures.

**APPLICATIONS**

- High-temperature ball and roller bearings where other lubricants fail, due to gum and carbon deposit formation.
- Sub-zero temperatures in oil well head glands.



Railroad Speciality Greases and Lubricants

▶

SL RAIL BIOGREASE

HIGH-PERFORMANCE RAIL LUBRICANT

PRODUCT CODE: 3238

PACK SIZES: 181kg, 15.9kg

Rail Biogrease is a high-performance rail curve grease based on oils from vegetable sources, and is biodegradable.

In wayside systems Rail Biogrease forms a vertical bead that is easily picked up. It carries through multiple curves and forms a coating on the gauge face that is clearly visible for ease of inspection. In many cases the use of Rail Biogrease may result in reduced grease consumption.

Rail Biogrease empties evenly from the holding tank, without slumping down to form a “V”. This minimizes pump cavitation. Unlike some vegetable-based products, Rail Biogrease will not gel over time. It remains pumpable and does not plug ports.

The Rail Biogrease formulation has been used extensively on Class 1 freight railroads in the United States, which represent severely loaded conditions.



<div><b>APPLICATIONS</b></div> <div><ul style="list-style-type: none"><li>• SL Rail Biogrease is suitable for lubrication of rail curves where it protects the gauge face and wheel flanges. It can also be used in bearings and to lubricate wire ropes.</li></ul><div>Ambient usable temperature range, wayside is 0 to &gt;54°C.</div></div>	<div><b>PERFORMANCE STANDARDS</b></div> <div>SL Rail Biogrease is based on a product which has been certified by the USDA as biobased, and has earned USDA BioPreferred designation.</div>
---	--

▶

JOURNALTEX HD-C

JOURNAL BEARING OIL

PRODUCT CODE: 1321

PACK SIZE: 205L

A premium quality, rust inhibited railroad journal bearing oil. Assists in breaking in new bearings and reduces friction in heavily loaded bearings.

APPLICATIONS

- Lubricator pad, waste saturation or free oiling of railway journal bearings.
  - Diesel electric locomotive traction motor suspension bearings and oil lubricated roller bearings.



## TM GEAR LUBE PREMIUM TRACTION MOTOR GEAR LUBRICANT

**PRODUCT CODE:** 1075

**PACK SIZES:** 180kg, 450g

Black, adhesive, semi-fluid grease specifically designed for lubrication of traction motor gear cases of diesel-electric locomotives. Contains a lithium thickener, very high-viscosity base fluid and special extreme pressure (EP) additive system.



### APPLICATIONS

- Traction motor gear cases (incorporating appropriate seal designs) where semi-fluid grease-type lubricants are specified.
- Older non-sealed traction motor designs that normally use heavy residual-type gear lubricants, where the higher leakage rate that may result is acceptable.
- Slow- to medium-speed industrial gear applications where an EP semi-fluid grease is recommended.

## TORQUE FLUID 32 SPECIALTY TRANSMISSION FLUID

**PRODUCT CODE:** 1358

**PACK SIZES:** 1000L, 205L

Specialty power transmission fluid approved for use in Voith railroad hydrodynamic transmissions and hydrodynamic brakes.



### APPLICATIONS

- Voith Heidenheim hydrodynamic transmissions (Turbo transmissions) in railroad applications.
- Voith Heidenheim hydrodynamic brakes in railroad applications.
- Voith Crailsheim variable speed industrial couplings and torque converters with and without gear units.

### PERFORMANCE STANDARDS

- Voith Heidenheim List 120.00059010\_EN, Version 5: approved as an Index 2 oil.  
Note: Voith Index 2 oils are suitable for use in non-electronically controlled turbo-transmissions. They are not suitable for use in electronically controlled Turbo transmissions except for the model T 211.
- Voith Crailsheim Lists (approved): 3625-006058, 3625-006072, 3625-006073, 3625-008426.

# HYDRAULIC OILS





# HYDRAULIC OILS

CLARITY® SYNTHETIC HYDRAULIC OIL AW	85
CLARITY® HYDRAULIC OIL AW	86
RANDO® HDZ	87
RANDO® MV	88
RANDO® HD	89
HYDRAULIC OIL AW 10, 46 and 68	90
PREMIUM HARVESTER HYDRAULIC OIL	91
RANDO® WM	91
REGAL® R&O 32, 46, 68, 100	92
SL HYDRAULIC FLUID FR 46, 68	93



CLARITY® SYNTHETIC HYDRAULIC OIL AW  
ANTI-WEAR HYDRAULIC FLUID

ISO Grade	32	46	68
Product Code	3263	3264	3265

**PRODUCT CODE:** Refer to table above. **PACK SIZES:** 205L. ISO 46 also available in bulk and 1000L.

Designed to give maximum protection to both mobile and stationary hydraulic pumps in high-performance industrial applications as well as in environmentally sensitive areas.

Formulated with synthetic base stock and an ashless, zinc-free additive system that provide effective oxidation stability, water separability, foam suppression, and protection against wear, rust and corrosion.

High-viscosity index aids hydraulic response time and increases operating temperature range.

Designed to meet or exceed the performance requirements of conventional anti-wear hydraulic oils, especially in severe, high-output applications such as axial piston pumps, while providing an additional level of safety in case of leaks or incidental discharge to the environment. These are long-life lubricants, with a longer oxidation stability life (ASTM D943, Turbine Oil Stability Test) than conventional hydraulic fluids, which equates to longer potential service life and is especially applicable in high efficiency (high-speed, high-temperature, high output) applications where severe stress is placed on the hydraulic fluid.



APPLICATIONS

- Mobile and stationary hydraulic vane, piston, and gear type pumps.
- High-performance industrial applications utilising axial piston pumps where pressures may exceed 5,000 psi (34 MPa).
- Environmentally sensitive areas.
- Suited for applications involving yellow metals found in piston pumps.

Not compatible with zinc/calcium containing fluids. Do not use in high-pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Do not use in breathing air apparatus or medical equipment.

PERFORMANCE STANDARDS

Clarity® Synthetic Hydraulic Oils AW meets the requirements of:

- Arburg (ISO 46)
- ASTM D6158, HV
- Bosch-Rexroth former specification RD/RE 90220-01
- Cincinnati Machine P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)
- Eaton Vickers 35VQ25A, M-2950-S, I-286-S
- Frank Mohn, Framo hydraulic cargo pumping (ISO 46)
- German Standard DIN 51524-3 (HVLP, 2006, pt. 3)
- ISO 11158 L-HV
- Krauss-Maffei Kunststofftechnik (ISO 46)
- Vestas 0000-2843 (ISO32)



CLARITY® HYDRAULIC OIL AW  
ANTI-WEAR HYDRAULIC FLUID

ISO Grade	32	46	68	100
Product Code	3259	3260	3261	3262

**PRODUCT CODE:** Refer to table above. **PACK SIZES:** 205L. ISO 46 also available in bulk.

Formulated with premium base oil technology and an ashless (zinc-free) additive system that provides effective oxidation stability, water separability, foam suppression, and protection against wear, rust and corrosion. Designed to meet or exceed the performance requirements of conventional anti-wear hydraulic oils, especially in severe, high-output applications such as axial piston pumps.

The anti-wear performance of these oils makes them especially suited for high-performance industrial applications utilising axial piston pumps where pressures may exceed 5,000 psi (34 MPa). The zinc-free formula makes them well suited for applications involving yellow metals found in hydraulic systems.

These are long-life lubricants (are not vegetable oil-based), with longer TOST (ASTM D943 oxidation stability test) lives than conventional zinc-based hydraulic fluids, which equates to longer potential service life and are especially applicable in high efficiency (high-speed, high-temperature, high output) applications where severe stress is placed on the hydraulic fluid.

Clarity® Hydraulic Oil AW 100 is a shear stable high-viscosity index hydraulic oil designed to improve equipment efficiency and increase the operating temperature range of this grade.



APPLICATIONS

- Mobile and stationary hydraulic vane, piston, and gear type pumps.
- Applications involving servo-valves using multimetal components.
- Suited for applications involving yellow metals found in piston pumps.
- Not compatible with zinc/calcium containing fluids.

Do not use in high-pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Do not use in breathing air apparatus or medical equipment.

PERFORMANCE STANDARDS

- Clarity® Hydraulic Oil AW meets the requirements of:**
- Denison HF-0, HF-2 testing requirements of T5D (ISO 32, 46, 68)
  - MAG Cincinnati, Cincinnati Machine P68 (ISO 32), P70 (ISO 46), P69 (ISO 68)
  - Eaton-Vickers for use in M-2950-S (mobile) and I-286-S (stationary) hydraulic systems. Passes Eaton-Vickers 35VQ25 pump test. (ISO 32, 46, 68)
  - DIN 51502:1990, HLP fluid (ISO 32, 46, 68)
  - DIN 51524 (2006-04) Part 2, HLP (ISO 32, 46, 68)
  - DIN 51502:1990, HVLP fluid (ISO 100)
  - DIN 51524 (2006-04) Part 3, HVLP (ISO 100)
  - ASTM D6158 HM (ISO 32, 46, 68)
  - ASTM D6158 HV (ISO 100)
  - ISO 6743:1999 Part 4, HM fluid (ISO 32, 46, 68)
  - ISO 11158:2009, HM (ISO 32, 46, 68)
  - ISO 6743: 1999 Part 4, HV fluid (ISO 100)
  - ISO 11158:2009, HV (ISO 100)

RANDO® HDZ  
WIDE TEMPERATURE RANGE HYDRAULIC FLUID

ISO Grade	15	32	46	68	100
Product Code	3213	3214	3215	3216	3217

**PRODUCT CODE:** Refer to table above. **PACK SIZES:** Refer to table below.

Premium quality, shear stable, multi-viscosity, anti-wear hydraulic fluid, designed to give robust protection for hydraulic systems subjected to wide variations in ambient and operating temperatures.



APPLICATIONS

- Industrial hydraulic equipment subject to wide variation in temperatures.
- Hydraulics of mobile, construction and agricultural equipment where a water separating oil is required.
- Hydraulic systems with vane, gear or piston pumps.
- Fork-lift trucks (in refrigerated areas).
- Plastic injection moulding machines.
- Marine deck equipment, steering gears, bow thrusters and automatic controls.
- Machine tools.
- Enclosed gear systems.

PACK SIZES

ISO	15	32	46	68	100
Bulk		✓	✓	✓	
1000L		✓	✓	✓	✓
205L	✓	✓	✓	✓	✓
20L		✓	✓	✓	

PERFORMANCE STANDARDS

Approved against:

- Parker Hannifin (Denison) HF-0 (ISO 32, 46, 68)
- Eaton-Vickers 35VQ25A, I-286-S [industrial applications], M-2950-S [mobile applications] (ISO 32, 46, 68)
- MAG Cincinnati, Cincinnati Machine P 68 (ISO 32), P 69 (ISO 68), P 70 (ISO 46)

Meets the requirements of:

- Arburg (ISO 46 – standard wear requirements)
- Bosch Rexroth RE 07 075 (10.05), RE 90 220 (05.10) (ISO 32, 46, 68)
- JCMAS HK-1 (ISO 32,46)
- ASTM D6158, HV (ISO 32, 46, 68, 100)
- ISO 6743 (1999) Part 4, Type HV (ISO 15, 32, 46, 68, 100)
- ISO 11158 (2009), HV (ISO 15, 32, 46, 68, 100)
- DIN 51502 (1990), Type HVLP (ISO 15, 32, 46, 68, 100)
- DIN 51524 (2006-04) Part 3, HVLP (ISO 15, 32, 46, 68, 100)

**RANDO® MV**  
**WIDE TEMPERATURE RANGE HYDRAULIC FLUID**

ISO Grade	15	32	46	68	100
Product Code	1328	1329	1330	1331	2706

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

Multi-viscosity, anti-wear hydraulic fluid, designed for use in hydraulic systems subjected to wide variations in ambient and operating temperatures.



**APPLICATIONS**

- Industrial hydraulic equipment subject to wide variation in temperatures.
- Hydraulics of mobile, construction and agricultural equipment where a water separating oil is required.
- Hydraulic systems with vane, gear or piston pumps.
- Forklift trucks (in refrigerated areas).
- Plastic injection moulding machines.
- Marine deck equipment, steering gears, thrusters and automatic controls.
- Machine tools.
- Enclosed gear systems (dependent on load).

**PACK SIZES**

ISO	15	32	46	68	100
Bulk		✓	✓	✓	✓
1000L		✓	✓	✓	
205L	✓	✓	✓	✓	✓
20L		✓	✓	✓	

**PERFORMANCE STANDARDS**

- Rando® MV is suitable for use\* where the following industry and OEM standards are requested:
    - Parker Hannifin (Denison) HF-0 (ISO 32, 46, 68)
    - Eaton-Vickers 35VQ25A, I-286-S [industrial applications], M-2950-S [mobile applications] (ISO 32, 46, 68)
    - MAG Cincinnati, Cincinnati Machine P 68 (ISO 32), P 69 (ISO 68), P 70 (ISO 46)
    - Bosch Rexroth RE 07 075 (10.05)
    - ISO 6743 (1999) Part 4, Type HV
    - ISO 11158 (2009), HV
    - DIN 51502 (1990), Type HVLP
    - DIN 51524 (2006-04) Part 3
- \* Where oil holding Parker Hannifin (Denison), Eaton-Vickers or MAG Cincinnati Machine approvals is required, use Rando® HDZ.

RANDO® HD  
ANTI-WEAR HYDRAULIC FLUID

ISO Grade	22	32	46	68	100	150
Product Code	2046	2048	2050	2051	2044	2045

PRODUCT CODE: Refer to table above.

PACK SIZES: Refer to table below.

Anti-wear hydraulic fluid, formulated with premium Group II base oil technology and anti-wear additives, and designed to give robust protection to hydraulic pumps in mobile and stationary high-pressure hydraulic systems.



APPLICATIONS

- Industrial hydraulic systems.
- Hydraulics of mobile and construction equipment where a water separating oil is required.
- Hydraulic systems with vane, gear or piston pumps.
- Plastic injection moulding machines.
- Machine tools.
- Enclosed gear systems dependent on load.
- Industrial circulating systems.
- Rando® HD 32 is recommended in airline lubricators and some modern screw and rotary vane compressors.

Do not use in breathing air apparatus or medical equipment.

PACK SIZES

ISO	22	32	46	68	100	150
Bulk			✓	✓		
1000L	✓	✓	✓	✓	✓	✓
205L	✓	✓	✓	✓	✓	✓
20L	✓	✓	✓	✓	✓	✓
4L				✓		

PERFORMANCE STANDARDS

Approved against:

- Parker Hannifin (Denison Hydraulics) HF-0 (ISO 32, 46, 68)
- Eaton Vickers I-286-S [industrial applications], M 2950-S [mobile applications] (ISO 32, 46, 68)
- David Brown Industrial Gears 0A (ISO 32), 1A (ISO 46), 2A (ISO 68), 3A (ISO 100), 4A (ISO 150)

Suitable for use where oils are required that meet:

- Cincinnati Machine P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)

Meets the requirements of:

- Bosch Rexroth RE 07 075 (ISO 32, 46, 68)
- ISO 6743:1999 Part 4, HM fluid
- ISO 11158:2009, HM
- DIN 51502:1990, HLP fluid
- DIN 51524:2006-04 Part 2, HLP (ISO 22 to 100)

Note: Blue dyed versions of Rando® HD 46 and 68 are available in bulk for greater visibility under product codes 2930 and 1679 respectively.

HYDRAULIC OIL AW 10, 46 and 68  
ANTI-WEAR HYDRAULIC FLUIDS

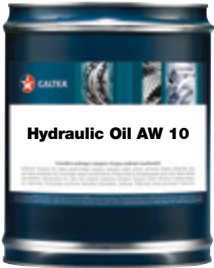
ISO Grade	10	46	68
Product Code	3122	1597	1281

PRODUCT CODE: Refer to table above.

PACK SIZES: Refer to table below.

Hydraulic Oil AW 10 is an anti-wear hydraulic fluid, designed to give robust protection in applications requiring an ISO 10 fluid with rust and oxidation resistance.

Hydraulic Oil AW 46 and 68 are sound quality products exhibiting demulsibility as well as oxidation, rust and foaming control. They provide adequate anti-wear capability for moderate duty hydraulic service.



APPLICATIONS

- Hydraulic Oil AW 10 is suitable for systems requiring ISO 10 anti-wear fluid such as steering systems on some boats, high-speed spindles where viscosity grade is appropriate and zinc-free oils are not a requirement, and air-line oilers in colder conditions.
- Hydraulic Oil AW 46 and 68 are a cost-effective alternative in hydraulic ram and hydraulic motor applications operating in light to moderate service conditions. These applications may include those where age, general condition, infrequent use and the need for regular make-up may combine to create the need for a lubricant that is a sound compromise between performance and cost.

Hydraulic Oil AW 46 and 68 are not the preferred recommendation in continuous severe vane or gear pump activated systems or in severe service hydraulic motor drive applications. In such applications, including "in warranty", a choice should be made from the Rando® HD, Rando® MV, Rando® HDZ, Clarity® Hydraulic or Clarity® Synthetic Hydraulic ranges. In cane harvesters and other totally hydraulic driven units, Premium Harvester Hydraulic Oil is recommended.

PACK SIZES

ISO	10	46	68
Bulk		✓	✓
1000L			✓
205L		✓	✓
20L	✓		✓

**PREMIUM HARVESTER HYDRAULIC OIL**  
**HIGH-SHEAR STABILITY HIGH VI HYDRAULIC FLUID**

**PRODUCT CODE:** 1498 **PACK SIZE:** 205L

An extremely shear stable high-viscosity index hydraulic oil with enhanced air release/anti-foam, wear control and corrosion protection properties.

**APPLICATIONS**

- Austoft cane harvesters.
  - Cameco Down Under cane harvesters.
- See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

- ISO 68
- Meets the performance requirements of:**
- Austoft Industries cane harvesters
  - Cameco Down Under cane harvesters
  - Swiss Standard SMR 1996-2N



**RANDO® WM**  
**INDUSTRIAL TURBINE OIL**

**PRODUCT CODE:** 3094 **PACK SIZE:** 208L

Rando® WM32 is a high-performance multigrade hydraulic fluid designed for use in wind turbine systems and a wide range of other applications. It provides good low-temperature fluidity with a high-viscosity index and therefore offers a wide operating temperature window. This product complies with Swedish Standard SS 15 54.34.

**APPLICATIONS**

- Recommended for use in:
- Wind turbines.
  - Many types of high-pressure hydraulic systems operating across a wide ambient and operating temperature range.
  - Systems with gear, vane, radial and axial piston pumps.
- Do not use in breathing air compressors.
- See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

- Suitable for use where the following are requested:**
- Approved against:**
- Vestas Wind Systems 0000-2843
  - Vickers M-2950S, I-286
- Meets the requirements of:**
- ISO 6743 HV
  - DIN 51524 Part 3, HVL
  - Swiss Standard SS15 54 34
  - Swiss Standard SMR 1996-2N



REGAL® R&O 32, 46, 68, 100  
INDUSTRIAL TURBINE OIL

ISO Grade	32	46	68	100
Product Code	1334	1335	1336	1333

PRODUCT CODE: 3094

PACK SIZES: Refer to the table below.

Inhibited turbine oil formulated from highly refined base stocks and special rust, oxidation and foam inhibitors. While principally turbine oils, these lubricants find some use in compressors.



APPLICATIONS

Suitable for use in the following applications provided a rust and oxidation (R&O) inhibited oil is acceptable:

- Bath and circulating systems supplying rolling element bearings of all types, lightly loaded gear sets, vacuum pumps, machine tools (including computer controlled units), conveyors, electric motors, and low- to moderate-pressure hydraulic pumps where anti-wear properties are not required.
- Steam and hydraulic turbines operating under all service conditions.
- Industrial gas turbines operating under moderate service conditions where the oil is not exposed to excessively high temperatures, or gearsets requiring enhanced load carrying performance.
- Centrifugal, rotary and reciprocating compressors, turbo-blowers and centrifugal pumps, requiring a rust and oxidation inhibited oil.

Do not use in breathing air compressors.  
See Product Data Sheet for Service Considerations.

PACK SIZES

ISO	32	46	68	100
Bulk	✓			
1000L	✓	✓	✓	
205L	✓	✓	✓	✓
20L	✓	✓	✓	

PERFORMANCE STANDARDS

Suitable for use where the following are requested:

- ANSI/AGMA 9005-E02 for R&O inhibited oils
- ASTM D4304-06a Type I
- British Standard BS 489:1999
- Cincinnati Machine P-38, P-55, P-54 (ISO 32, 46, 68, respectively)
- General Electric GEK 27070, GEK 28143B, GEK 46506D
- German Standard DIN 51515 Part 1 (2001)
- Siemens TLV 9013 04

- Siemens MAT 812101 (ISO 32) and 812102 (ISO 46)
- Solar ES 9-224W Class II

Regal® R&O is approved against David Brown Table M – 0M, 1M, 2M, 3M (ISO 32 to 100, respectively).



**SL HYDRAULIC FLUID FR 46, 68**  
**FIRE-RESISTANT SYNTHETIC HYDRAULIC FLUID**

**46** | **PRODUCT CODE:** 3245  
**68** | **PRODUCT CODE:** 3246

**PACK SIZES:** 1000L, 205L

SL Hydraulic Fluid FR 46 and 68 are fire-resistant non-toxic biodegradable heavy-duty synthetic hydraulic fluids. As such they are designed to replace anti-wear mineral oil based hydraulic fluids where fire hazards exist, or in environmentally sensitive applications. They do not contain water, mineral oil or phosphate ester. SL Hydraulic Fluid FR 46 and 68 are formulated from synthetic organic esters and selected additives to provide effective hydraulic fluid performance, allowing them to be used with hydraulic components from major manufacturers.

**APPLICATIONS**

- Hydraulic fluid applications where a fire hazard exists.
- Hydraulic fluid applications that are environmentally sensitive.

See Product Data Sheet for Service Considerations.



# INDUSTRIAL



# INDUSTRIAL

## AIR COMPRESSOR OILS

CETUS® DE 100	97
CETUS® PAO 46, 68	97
COMPRESSOR OIL EP VDL 100, 150	98
RANDO® HD 32, 46, 68, 100	99
REGAL® R&O 32, 46, 68, 100, 150 and 220	100

## COMPRESSOR OILS – REFRIGERATION

SUNISO 4SA	101
------------	-----

## FOOD GRADE LUBRICANTS

WHITE OIL PHARMA 15, 68	102
FOOD MACHINERY GREASE	102

## GEAR OILS – MINERAL

MEROPA® XL 220, 320	103
MEROPA® 68 – 4000	104
RPM BORATE® EP LUBRICANT 150 – 680	105
CRATER® 2, 5	105

## GEAR OILS – SYNTHETIC

MEROPA® SYNTHETIC EP 220, 320, 680	106
SYNTHETIC WHEEL MOTOR LUBRICANT EP 460, 680	107
EMGARD GEAR ULTRA 460	107

## LOG END SEALANT

TIMBER SEALER	108
---------------	-----

## MACHINE AND SYSTEM OILS – TOTAL LOSS UNCOMPOUNDED

PROPAR	109
--------	-----

## MACHINE AND SYSTEM OILS – TOTAL LOSS COMPOUNDED

GERNOL 220X, 320X, 460X	110
-------------------------	-----

## MACHINE AND SYSTEM OILS – NON-THROW OILS

WAY LUBRICANT X 68	111
CHAIN & BAR OIL	111

## MACHINE AND SYSTEM OILS – HEAT TRANSFER OILS

TEXATHERM 46	112
--------------	-----

## METALWORKING FLUIDS

TRUSOL GP	113
TRUSOL EP	113

## MOULD OILS

ERDOL CRA 91	114
MOULD OIL 010	114
MOULD OIL 20	114
MOULD OIL 22	115
MOULD OIL 275	115
MOULD OIL 3	115
MOULD OIL 4SDO	115

## PETROLATUM

SNOW WHITE PETROLEUM JELLY	116
----------------------------	-----

## ROCK DRILL OILS

ROCK DRILL LUBE 100, 320, 460	117
-------------------------------	-----

## TURBINE OILS

GST EP 32, 46	118
GST OIL 32, 46	119
GST PREMIUM 32	120
REGAL® R&O 32, 46, 68, 100	121
REGAL® SGT 22	122
TURBINE OIL SYMBOL 2190 TEP	123

## TRANSFORMER OILS

TRANSFORMER OIL BSI	124
TRANSFORMER OIL BSI INHIBITED	124

## VACUUM PUMP OILS

VACUUM PUMP OIL R31	125
---------------------	-----

# Air Compressor Oils



## CETUS® DE 100

### SYNTHETIC AIR COMPRESSOR OIL

PRODUCT CODE: 1350

PACK SIZES: 208L, 20L

Synthetic compressor oil based on diester technology and containing an ashless inhibitor system, providing protection against corrosion and outstanding oxidation resistance under severe operating conditions.



### APPLICATIONS

- Crater® DE oils are used for portable and stationary rotary screw, rotary vane, and reciprocating compressors. While specific manufacturer recommendations vary, higher viscosity grades are preferred for reciprocating units. Also suited for the lubrication of anti-friction bearing assemblies operating under high-temperature conditions (e.g. in fans, blowers and process pumps).
- Can be used in compressors with the following gases: process air, benzene, butadiene, carbon dioxide (dry), carbon monoxide, ethylene, furnace (crack) gas, helium, hydrocarbon gases, hydrogen, inert gases, methane, natural gas, nitrogen, propane, sulfur hexafluoride, and synthesis gas.
  - Crater® DE can be used in contact with the following seals, paints, and plastics: Viton®, High nitrile Buna N®, Teflon®, Epoxy paint, Oil-resistant alkyd, Nylon, Delrin®, Celcon®.

- This oil should not be used with: Neoprene, SBR rubber, Low nitrile Buna N®, Acrylic paint, Lacquer, Polystyrene, PVC, ABS.
- This information is intended for general guidance only. Advice should be sought from the equipment manufacturer to establish the acceptability of Crater® DE with elastomers in specific operating environments.

This information is intended for general guidance only. The satisfactory lubrication of gas compressors with Cetus® DE is dependent on numerous factors. Advice should be sought from the equipment manufacturer in specific circumstances.

Do not use in breathing air apparatus or medical equipment.

Not recommended to be mixed with polyalphaolefin (PAO) or mineral based compressor oils.

See Product Data Sheet for Service Considerations.

### PERFORMANCE STANDARDS

- ISO-L-DAC for reciprocating and rotary (drip feed) air compressors and vacuum pumps operating under heavy-duty conditions.
- Cetus® DE 100 is also recommended by select OEMs:
- Matsubara Iron Works Co. Ltd, for use as a reciprocating air compressor lubricant.
  - Tanabe Pneumatic Machinery Co. Ltd, for use in their H-series reciprocating marine compressors.



## CETUS® PAO 46, 68

### SYNTHETIC AIR COMPRESSOR OIL

46 | PRODUCT CODE: 1632  
68 | PRODUCT CODE: 1633

PACK SIZES: 208L, 20L. ISO 46 is also available in 1000L.

Synthetic compressor oil based on polyalphaolefin (PAO) technology. Contains a rust and oxidation inhibitor system plus anti-wear additives to provide outstanding oxidation resistance, corrosion protection and to minimise wear under severe operating conditions.



### APPLICATIONS

- Flooded screw compressors.
  - Rotary air compressors.
  - Reciprocating air compressors.
  - Medium-speed marine diesel engine turbochargers.
- Do not use in breathing air apparatus or medical equipment.

### PERFORMANCE STANDARDS

- ABB approval for VTR.4 turbochargers with rolling-contact bearings, per VTR.4-4-010, as a specially tested synthetic oil for heavily loaded turbochargers, up to 5,000 hour drains (ISO 68).
- Cetus® PAO has been used successfully in the lubrication of many types of air compressors, including Atlas Copco units.
- German Standard DIN 51506 VDL.

COMPRESSOR OIL EP VDL 100, 150  
RECIPROCATING AIR COMPRESSOR OIL

100		PRODUCT CODE: 3055	PACK SIZES: 20L. ISO 100 also available in 205L.
150		PRODUCT CODE: 3054	ISO 150 also available in 1000L.

High-performance, petroleum-based compressor oil specifically designed for severe operating conditions. It delivers stable high-temperature oxidation resistance with reduced deposit formation on pistons and valves, excellent corrosion protection, foam inhibition, and extreme pressure performance.



<b>APPLICATIONS</b> <ul style="list-style-type: none"><li>• Single-stage and multi-stage reciprocating and centrifugal compressors and oil flooded screw compressors operating at temperatures of up to 220°C.</li><li>• Air or inert gas reciprocating compressors.</li><li>• Stationary, semi-portable and portable units.</li></ul> <p>Do not use in breathing air apparatus or medical equipment.</p>	<b>PERFORMANCE STANDARDS</b> <ul style="list-style-type: none"><li>• Meets the test requirements of German Standard DIN 51506 Group VDL</li><li>• Compressor Oil EP VDL 100 is recommended by:<ul style="list-style-type: none"><li>– Tanabe for use in their reciprocating-type compressors.</li><li>– Sperre for use in their Classic 30 bar reciprocating air compressors.</li></ul></li><li>• Compressor Oil EP VDL 100 is suitable for use in Teikoku air compressors</li><li>• Compressor Oil EP VDL 100 has also been used successfully in Hatlapa and Hamworthy air compressors</li></ul>
---	---

**RANDO® HD 32, 46, 68, 100**  
ANTI-WEAR HYDRAULIC FLUID

ISO Grade	32	46	68	100
Product Code	2048	2050	2051	2044

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

Anti-wear hydraulic fluid, formulated with premium Group II base oil technology and anti-wear additives, and designed to give robust protection to hydraulic pumps in mobile and stationary high-pressure hydraulic systems.



**APPLICATIONS**

- Rando® HD 32 is recommended in airline lubricators and some modern screw and rotary vane compressors.
- Rando® HD 46, 68 and 100 may be used where anti-wear hydraulic oils of these viscosity grades are recommended.

Do not use in breathing air apparatus or medical equipment.

**PACK SIZES**

ISO	32	46	68	100
Bulk		✓	✓	
1000L	✓	✓	✓	✓
205L	✓	✓	✓	✓
20L	✓	✓	✓	✓
4L			✓	

**PERFORMANCE STANDARDS**

**Approved against:**

- Parker Hannifin (Denison Hydraulics) HF-0 (ISO 32, 46, 68)
- Eaton Vickers I-286-S [industrial applications], M 2950-S [mobile applications] (ISO 32, 46, 68)
- David Brown Industrial Gears 0A (ISO 32), 1A (ISO 46), 2A (ISO 68), 3A (ISO 100)

**Suitable for use where oils are required that meet:**

- Cincinnati Machine P-68 (ISO 32), P-69 (ISO 68), P-70 (ISO 46)

**Meets the requirements of:**

- Bosch Rexroth RE 07 075 (ISO 32, 46, 68)
- ISO 6743:1999 Part 4, HM fluid
- ISO 11158:2009, HM
- DIN 51502:1990, HLP fluid
- DIN 51524:2006-04 Part 2, HLP (ISO 32 to 100)

Note: Blue dyed versions of Rando® HD 46 and 68 are available in bulk for greater visibility under product codes 2930 and 1679 respectively.



▶ **REGAL® R&O 32, 46, 68, 100, 150 and 220**  
**INDUSTRIAL TURBINE OIL**

ISO Grade	32	46	68	100	150	220
Product Code	1334	1335	1336	1333	3089	3178

**PRODUCT CODE:** Refer to table above. **PACK SIZES:** Refer to table below.

Inhibited turbine oil formulated from highly refined base stocks and special rust, oxidation and foam inhibitors. While principally turbine oils, these lubricants find some use in compressors.



**APPLICATIONS**

Suitable for use in the following applications provided a rust and oxidation (R&O) inhibited oil is acceptable.

- Centrifugal, rotary and reciprocating compressors, turbo-blowers and centrifugal pumps, requiring a rust and oxidation inhibited oil.
- Steam and hydraulic turbines operating under all service conditions.
- Industrial gas turbines operating under moderate service conditions where the oil is not exposed to excessively high temperatures, or gearsets requiring enhanced load carrying performance.
- Bath and circulating systems supplying rolling element bearings of all types, lightly loaded gear sets, vacuum pumps, machine tools (including computer controlled units), conveyors, electric motors, and low to moderate pressure hydraulic pumps where anti-wear properties are not required.

Do not use in breathing air apparatus or medical equipment.  
See Product Data Sheet for Service Considerations.

**PACK SIZES**

ISO	32	46	68	100	150	220
Bulk	✓					
1000L	✓	✓	✓		✓	✓
205L	✓	✓	✓	✓		
20L	✓	✓	✓			

**PERFORMANCE STANDARDS**

**Suitable for use where the following are requested:**

- ANSI/AGMA 9005-E02 for R&O inhibited oils
- ASTM D4304-06a Type I (ISO 32 to 100)
- British Standard BS 489:1999 (ISO 32 to 100)
- Cincinnati Machine P-38, P-55, P-54 (ISO 32, 46, 68, respectively)
- General Electric GEK 27070, GEK 28143B, GEK 46506D (ISO 32 to 100)
- German Standard DIN 51515 Part 1 (2001) (ISO 32 to 100)

- Siemens TLV 9013 04 (ISO 32 to 100)
- Siemens MAT 812101 (ISO 32) and 812102 (ISO 46)
- Solar ES 9-224W Class II (ISO 32 to 100)

Regal® R&O is approved against David Brown Table M – 0M, 1M, 2M, 3M (ISO 32 to 100, respectively).

## Compressor Oils – Refrigeration

### **SUNISO 4SA**

#### **REFRIGERATION COMPRESSOR OIL**

**PRODUCT CODE:** 1626

**PACK SIZE:** 205L

Refrigeration and air conditioning compressor oil formulated on highly refined, dewaxed naphthenic base stock, and refinery treated to enhance thermal stability.

#### **APPLICATIONS**

- Suniso 4SA is designed for systems using ammonia as refrigerant, which is immiscible with the oil. It is a modified version of Suniso 4GS developed for ammonia refrigeration systems where temperatures and pressures are frequently higher.

Do not use in breathing air apparatus or medical equipment.

Not designed for systems using hydrofluorocarbon refrigerants such as HFC 134a.

#### **PERFORMANCE STANDARDS**

- British Standard BS 2626-1992 C
- Approved by the major compressor and equipment manufacturers.



Food Grade Lubricants

WHITE OIL PHARMA 15, 68  
PHARMACEUTICAL WHITE OIL

15		PRODUCT CODE: 1719		
68		PRODUCT CODE: 1720		PACK SIZES: 205L, 20L

Premium quality, colourless, odourless, tasteless white oil, containing a food-grade inhibitor and meeting the purity standards and requirements of international and national authorities for pharmaceutical white oils.



APPLICATIONS

Medicinal and cosmetic applications:

- Manufacture of ointments, complexion creams, hair care products, laxatives, baby oils, and as a carrier for the preparation of curative drugs.

Food processing and packaging operations where oil used as a processing aid may be included in food or food packaging material, or direct contact between the oil and food or packaging materials may occur:

- Egg processing, meat and fish packaging, fruit and vegetable processing, dairy industry, brewing and bottling, food canning, sugar refining, and the manufacture of paper intended for food packaging.
- Hydraulic fluid, or bearing and gear lubricant.
- Compressors (ISO 68) handling air or gases (except oxygen), or carbon dioxide for carbonated beverages.
- Rust preventive for vats, tanks and machinery.

General industry applications:

- Plasticiser for hydrocarbon resins, process oil where extremely low sulfur content is required, textile industry lubricant, organic synthesis, animal husbandry, etc.
- Compressors in refrigeration systems handling methyl chloride or sulfur dioxide.

Do not use in breathing air apparatus or medical equipment.

PERFORMANCE STANDARDS

- |   |  |
|---|--|
| • Australian Department of Primary Industries and Energy, Australian Quarantine & Inspection Service: Approved Lubricant Type A | • British Pharmacopoeia (BP)               |
|   | • U.S. FDA 21 CFR 178.3620(a), CFR 172.878 |
|   | • U.S. Pharmacopeia (USP)                  |
|   | • U.S. National Formulary (NF)             |

FOOD MACHINERY GREASE  
FOOD MACHINERY GREASE

PRODUCT CODE: 1086	PACK SIZE: 20kg
--------------------	-----------------

Multipurpose, extreme pressure, premium quality NLGI No. 2 grease for lubrication of food machinery and canning equipment, especially where incidental contact with food may occur. Pure white, odourless and tasteless. Manufactured from pharmacopoeia grade white mineral oil with a special aluminium complex thickener and contains rust and oxidation inhibitors and extreme pressure additives. All ingredients meet Section 178-3570 of the US Food and Drug Administration regulations and it is approved by AQIS as a Lubricant Type A – for use wherever food or food products may be subject to incidental contact with the lubricant.



APPLICATIONS

- Machinery and equipment used in producing, manufacturing, packaging, processing, preparing, treating, transporting or holding food.
  - Plain and anti-friction bearings, slides, guides and other moving parts.
- Usable temperature range in continuous service is -30 to 160°C.  
Maximum temperature for short-term exposure is 210°C.

PERFORMANCE STANDARDS

- USFDA: Approved Type H-1 Grease. Ingredients meet requirements of Section 178-3570
- US Dept of Agriculture: Accepted for inspected meat and poultry processing plants
- Australian Department of Primary Industries and Energy, Australian Quarantine & Inspection Service: Approved Lubricant Type A

Gear Oils – Mineral

**MEROPA® XL 220, 320**  
EXTREME PRESSURE INDUSTRIAL GEAR OIL

220 | PRODUCT CODE: 3347

320 | PRODUCT CODE: 3348

PACK SIZES: 200L, 20L. ISO 320 also available in 1000L.

Extreme pressure gear oil formulated from premium base oils with effective load carrying capacity, micro-pitting wear protection, water demulsibility, oxidation stability, and corrosion protection.



APPLICATIONS

- Meropa®XL oils are recommended for:
- Industrial enclosed gearing where AGMA EP lubricant is specified.
  - Industrial enclosed gearing where DIN 51517 (CLP) is specified.
  - Bath, splash, circulating, or spray mist lubrication as applicable to the proper viscosity grade.
  - Marine gearboxes and non geared systems requiring an extreme pressure lubricant.

PERFORMANCE STANDARDS

- Cincinnati Machine (MAG)
- DIN 51517 Part 3 (CLP)
- US Steel 224
- Siemens Rev. 13 (Approval No. A-CH-20140212) (Table A-a Standard Mineral Oils for FLENDER helical, bevel-helical, planetary gearboxes and 'Marine gear units without multi-disk clutches' as well as geared motors)

**MEROPA® 68 – 4000**  
EXTREME PRESSURE INDUSTRIAL GEAR OIL

ISO Grade	68	100	150	220	320	460	680	1000	4000
Product Code	1234	1227	1229	1230	1231	1233	1235	1228	2702

PRODUCT CODE: Refer to table above.

PACK SIZES: Refer to table below.

High-performance, mild extreme pressure (EP), industrial gear lubricant formulated with a sulfur-phosphorus additive system, which also provides rust and oxidation inhibition, a corrosion and oxidation inhibitor and a metal passivator. Designed primarily for industrial gear lubrication services where loads and shock loadings are high.



APPLICATIONS

- Enclosed industrial gear drives.
- Open gear drives (heavy grades).
- Spur, bevel, helical, worm and industrial hypoid gear cases.
- Industrial type reduction gearboxes on mining equipment, cement mills, ball and rolling mills, crushers, conveyors, kilns, winches, machine tools and marine equipment.
- Chain drives, sprockets, slide guides and flexible couplings.
- Plain and rolling element bearings.
- For bath, splash, circulation or spray lubrication, as applicable to the grade.

PERFORMANCE STANDARDS

- ANSI/AGMA 9005-E02 EP (ISO 68 to 1000)
- U.S. Steel 224 (ISO 68 to 320)
- David Brown Table E, approved (ISO 68 to 1000)
- German Std DIN 51517 Part 3 CLP (ISO 68 to 680)

PACK SIZES

ISO	68	100	150	220	320	460	680	1000	4000
Bulk			✓		✓				
1000L			✓		✓				
1000L	✓	✓	✓	✓	✓	✓	✓		
205L	✓	✓	✓	✓	✓	✓	✓	✓	✓
20L		✓	✓	✓	✓	✓		✓	

RPM BORATE® EP LUBRICANT 150 – 680  
EXTREME PRESSURE GEAR OIL

ISO Grade	150	220	320	460	680
Product Code	1340	1341	1342	1343	1345

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

Industrial extreme pressure (EP) gear lubricant. Also suitable for automotive applications. Contains a Borate EP additive system and supplemental anti-wear agent to provide wear protection superior to conventional EP gear lubricants. Also contains oxidation, corrosion and foam inhibitors. A problem solver for severe gear lubrication applications.



**APPLICATIONS**

- Industrial enclosed gears operating under severe conditions, including steel-on-bronze worm gears.
- Drive and reduction gearboxes on mills, mixers, crushers, extruders, kilns, stenters, pumps and hoists.
- Automotive differentials and gear cases operating under severe service conditions. Particularly for off-highway and heavy-duty trucking fleets.
- Heavy-duty transmissions where manufacturers recommend API GL-5 lubricants. May also be used in transmission applications where non-EP lubricants are normally recommended.

Not recommended where excessive water contamination is likely to occur.

**PERFORMANCE STANDARDS**

- API GL-5, GL-4 and GL-2
- U.S. Military MIL-L-2105D (ISO 150)
- David Brown Table E Approved: 4E to 7E (ISO 150 to 460)

**PACK SIZES**

ISO	150	220	320	460	680
1000L				✓	
205L	✓	✓	✓	✓	
20L	✓	✓	✓	✓	✓

CRATER® 2, 5  
INDUSTRIAL OPEN GEAR, CHAIN & WIRE ROPE LUBRICANT

**2** | **PRODUCT CODE:** 1060  
**5** | **PRODUCT CODE:** 1062

**PACK SIZES:** 180kg, 450g

Black, adhesive, residual oil-based lubricant recommended for industrial applications where low cost, heavy lubricating oil is required.



**APPLICATIONS**

- Open gears (e.g. mining, quarrying, construction and dredging equipment).
- Chains and sprockets.
- Wire ropes.
- Flexible couplings.
- Sliding surfaces (e.g. drag lines and shovels).
- Enclosed gears and traction motor gear cases (where leakage is excessive with conventional lubricants).

Note: Thinning with an appropriate safe solvent may improve ease of application.

# Gear Oils – Synthetic

**MEROPA® SYNTHETIC EP 220, 320, 680**  
SYNTHETIC EXTREME PRESSURE INDUSTRIAL GEAR OIL

ISO Grade	220	320	680
Product Code	3000	3273	3274

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

Synthetic EP gear oil and circulating oil designed for use in a wide range of industrial equipment operating under severe conditions, such as heavy and/or shock loading and elevated temperatures, where short service life with conventional lubricants can be expected. Formulated with a combination of polyalphaolefin and synthetic ester base fluids, and selected additives to provide outstanding EP performance and wear protection, increased thermal/oxidation stability and protection against corrosion and rust.



### APPLICATIONS

- All types of gear systems in mobile and stationary industrial equipment where an EP lubricant is specified, including spur, bevel and worm gears.
- Plain and anti-friction bearings subjected to heavy-duty operating conditions.
- Circulating oil systems where an EP lubricant is required.
- Outdoor machinery exposed to wide ambient temperature conditions, such as crane, hoist and winch gearboxes.
- Speed reducers, chain drives, sprockets and flexible couplings.
- Bath, splash, circulating and spray lubrication systems.

### PERFORMANCE STANDARDS

- AIST No. 224 (US Steel Specification No. 224)
- ANSI/AGMA Standard 9005-E02 EP
- DIN 51517 Part 3 CLP
- Joy TO-SMEP (ISO 220) and TO-SHEP (ISO 320)

### PACK SIZES

ISO	220	320	680
1000L	✓	✓	✓
208L	✓	✓	
20L	✓	✓	



## SYNTHETIC WHEEL MOTOR LUBRICANT EP 460, 680

### SYNTHETIC INDUSTRIAL EP GEAR LUBRICANT

**460** | **PRODUCT CODE:** 2961  
**680** | **PRODUCT CODE:** 2962

**PACK SIZES:** 208L. ISO 680 also available in 1000L.

Synthetic gear oil specially designed for use in severe duty wheel motor gear applications in off-highway haul trucks used in the mining industry. Formulated with fully synthetic base fluid and advanced additive system to provide thermal and oxidation stability, load carrying and anti-wear performance and protection against corrosion and rust.



#### APPLICATIONS

- Motorised wheel drive systems used in certain off-highway haul trucks (also known as electric wheel motors or motorised wheels).
- AC and DC type electric wheel motors.
- Mine haul trucks manufactured by Komatsu, Hitachi, Liebherr and Terex where fitted with GE electric wheel motor drive systems.
- Rolling element bearings incorporated in motorised wheel drive systems.
- Other moderate and heavily loaded industrial equipment where a synthetic extreme pressure (EP) gear lubricant of this type and viscosity is required.

## EMGARD GEAR ULTRA 460

### SYNTHETIC INDUSTRIAL EP GEAR LUBRICANT

**PRODUCT CODE:** 3267

**PACK SIZE:** 180kg

Synthetic gear oil designed to protect industrial gearbox components operating under severe conditions including shock loading, and give extended lubricant life in use. Formulated with base stocks that afford effective oxidation and thermal properties, have high-viscosity index, low-temperature fluidity, and are biodegradable. Enhanced by use of an advanced additive system to deliver protection against wear and afford high micro-pitting resistance. Flender BA 7300 A approval.



#### APPLICATIONS

- Most types of industrial gear drives including spur, helical and bevel gears.
- Gearboxes used in the paper, lumber, textile, cement, steel, and oil industries where gear protection and optimum oil life are required.
- Operations that see both high and low ambient temperatures.

#### PERFORMANCE STANDARDS

- Flender BA 7300 A
- German Standard DIN 51517-3

# Log End Sealant

TIMBER SEALER

WAX IN WATER EMULSION TIMBER SEALER

PRODUCT CODE: 1101

PACK SIZES: 180kg, 20kg

An off-white emulsion of waxes and water, formulated for use as a log end sealer. It is applied to the ends of freshly sawn logs to retard moisture release from the end grain, thus reducing splitting. Treated timber cannot be painted. Timber Sealer has a shelf life of 12 months.



### APPLICATIONS

- Control of moisture loss from the ends of the timber.
- Timber Sealer should be applied at approximately one litre per 4 m<sup>2</sup>, i.e. comparable to one heavy coat of paint. However it may not be painted over after application. Timber Sealer is stable for a shelf life of 12 months. However, packages should not be exposed to temperatures near or below freezing point, as this may cause the emulsion to break, leading to separation of the wax and water components. Roll container before using contents.

### PERFORMANCE STANDARDS

Density at 15°C, kg/L ..... 0.920  
Water Content, %m ..... 51.0  
Melting Point of Wax, °C ..... 73

Machine and System Oils  
– Total Loss Uncompounded

PROPAR  
PROCESS OIL

Propar	12G2	22	32	68	100	320	460
Product Code	4960	4916	4917	4919	4913	4931	4918

PRODUCT CODE: Refer to table above.

PACK SIZES: Refer to table below.

A range of unadditised mineral oils, their prime uses being for other than lubrication. They are used in various manufacturing processes where they may, or may not, form a component of the finished product and where their chemical composition may be of particular importance.



APPLICATIONS

The applications for Propar oils are varied. The final means of evaluating which product is best suited for a particular application is the performance in actual practice. Even in a particular process, an oil suitable in one instance at one location may not be entirely satisfactory in another due to changes in variables such as raw material, climatic conditions, process methods and equipment. Some uses for Propar oils, either straight or as a component in manufacture are as follows:

Adhesives	Mould release
Agricultural sprays	Plastic extenders
Carbon black manufacture	Plywood manufacture
Floor polish dressing	Polishes manufacture
Floor oils	Rope and cordage oils
Furniture polishing oils	Rubber manufacture
Gas holder filming	Rust preventives
Ink manufacture	Shoe polishes
Leather dressing	Upholstery manufacture
Mattress manufacture	Wood treating
Mineral wool manufacture	

PACK SIZES

Propar	12G2	22	32	68	100	320	460
Bulk			✓				
1000L	✓				✓	✓	
205L		✓	✓	✓	✓		✓

# Machine and System Oils

## – Total Loss Compounded

➤

**GERNOL 220X, 320X, 460X**  
COMPOUNDED PROCESS OIL

Gernol	220X	320X	460X
Product Code	3023	1419	3153

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

This range of mineral oil based machine and circulating oils contains fatty compounding to improve metal wetting and adhesion properties.

**APPLICATIONS**

- Circulating oil systems of heavy industrial machinery which incorporate clay filters to remove high levels of contamination.
- Also used in once-through or high-loss industrial systems.
- General industrial lubrication where loads are light.

**PACK SIZES**

Gernol	220X	320X	460X
Bulk	✓		
1000L	✓	✓	✓
205L		✓	



# Machine and System Oils – Non-Throw Oils

WAY LUBRICANT X 68

MACHINE TOOL SLIDEWAY LUBRICANT

PRODUCT CODE: 1359

PACK SIZES: 205L, 20L

High quality, machine tool slideway lubricant. Formulated from highly refined mineral oil with extreme pressure (EP), friction modifier, rust and corrosion inhibitors and tackiness additives, together with good demulsibility properties for coolant separation.



APPLICATIONS

- Machine tool slideways and guides:
    - Horizontal slideways
    - Light-to-moderate applications
  - Other industrial applications requiring an adhesive, corrosion inhibited lubricant with EP properties.
- See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Cincinnati Machine P-47 Heavy-Medium Way Oil
- Cincinnati Machine Stick-Slip Procedure

CHAIN & BAR OIL

CHAIN OIL

PRODUCT CODE: 1367

PACK SIZES: Bulk, 1000L, 205L, 20L, 4L, 1L

Chain and Bar Oil is a tough, tacky lubricant designed for lubrication of the chain, bar and sprocket on all types of chainsaws and chain-driven machinery. It is made from highly refined, high-viscosity index base oils along with a highly effective tackiness agent to resist fling-off.



APPLICATIONS

- Lubrication of the chain, bar and sprocket on all types of chainsaws, using either hand-operated or automatic oilers. It is particularly recommended for use in severe service conditions.
- Other chain-driven machinery, including motorcycles, lawnmowers, timber jinkers and farm equipment.

# Machine and System Oils – Heat Transfer Oils

▶ **TEXATHERM 46**

INDUSTRIAL HEAT TRANSFER OIL

PRODUCT CODE: 1357

PACK SIZES: 1000L, 205L

Highly refined, thermally stable mineral oil-type transfer fluid formulated with premium base oil technology. For use as a heat transfer fluid in both closed and open heat transfer systems with forced circulation.



**APPLICATIONS**

Recommended for use in heat transfer systems where fuel oil, gas, or electricity is used to heat a fluid, which then transfers the heat to the point of application.

Suitable for open or closed heat transfer systems with forced circulation operating under the following conditions:

- Maximum bulk oil temperature is 288°C
- Maximum film temperature on heater surfaces is 316°C
- Maximum temperature of oil surface in contact with air in open systems is 107°C.

Systems must have forced circulation of the heat transfer fluid.

See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

ISO Grade 46			
Autoignition Temperature, °C.....	360		
Flash Point, COC, °C.....	246		
Pour Point, C.....	-15		
Viscosity, mm²/s @ 40°C.....	46.6		
mm²/s @ 100°C.....	7.1		
Viscosity Index .....	112		
Physical and Thermal Properties			
versus Temperature .....	100°C	200°C	300°C
Density, kg/L.....	0.80	0.73	0.66
Dynamic Viscosity, mPa.s.....	5.74	1.26	0.54
Specific Heat, kJ/kg. °C .....	2.33	2.74	3.09
Thermal Conductivity, W/m. °C.....	0.117	0.103	0.089
Vapour Pressure, mmHg.....	0.0011	0.75	19
Coefficient of Thermal			
Expansion, 10-4/°C .....	8.3	10.0	12.5

Metalworking Fluids

TRUSOL GP  
GENERAL PURPOSE SOLUBLE METALWORKING FLUID

PRODUCT CODE: 1704

PACK SIZE: 20L

A general purpose, broad spectrum, soluble, cutting oil formulated on paraffinic basestocks with emulsifying agents and anti-rust and anti-corrosion additives. It forms a green emulsion with water and is inhibited against bacterial spoilage.



APPLICATIONS

- Milling, drilling, turning of low and medium tensile steels, cast iron, brass bronze and aluminium.
- As a grinding fluid where component finish is a high priority.

DILUTION RATIO

Turning, milling, drilling .....	1:20
General machining .....	1:20
Grinding .....	1:50
Tapping, screwing .....	1:10 to 1:15

PROPERTIES

Colour .....	Neat .....	Green
	Emulsion .....	Pale green
pH .....	Concentrate .....	10.1
	5.0% dilution .....	9.4
	10.0% dilution .....	9.6

TRUSOL EP  
EXTREME PRESSURE SOLUBLE METALWORKING FLUID

PRODUCT CODE: 1703

PACK SIZE: 20L

An extreme pressure soluble cutting oil formulated on paraffinic basestocks with emulsifying agents, anti-rust and anti-corrosion additives and an extreme pressure (EP) additive. It forms a white emulsion of high lubricity when diluted with water and is inhibited against bacterial spoilage.



APPLICATIONS

- Heavy-duty machining such as tapping and threading of high-carbon alloy and stainless steels.

DILUTION RATIO

Heavy-duty machining .....	1:8
General machining .....	1:20 to 1:30
Grinding .....	1:40
Tapping, screwing .....	1:8

PROPERTIES

Colour .....	Neat .....	Medium brown
	Emulsion .....	White
pH .....	Concentrate .....	10.9
	5.0% dilution .....	9.5
	10.0% dilution .....	9.3



Mould Oils

There are numerous factors influencing the selection of a mould release agent, i.e., the type of clay or concrete mix, the size, shape and type of the mould or form, the surface finish required and the rate of production. Caltex markets a wide variety of mould oils.

PACK SIZES

Please see the available pack sizes listed for each product.



▶ ERDOL CRA 91

PRODUCT CODE: 1403

PACK SIZE: 205L

A premium quality, general purpose concrete release oil incorporating additives which give an “architectural” finish with minimum patchwork when formwork is removed. Applied by brush, swab, spray or dipping.

▶ MOULD OIL 010

PRODUCT CODE: 1449

PACK SIZE: 205L

A concrete and clay release agent for spray application on concrete and steel moulds and especially for use on vertical steel moulds. It is also suitable for clay extrusion. It may be diluted with distillate as required. Applied by brush, swab or spray. The product may darken and take on a pink or reddish tinge over time. This colour change will not affect the performance of the product.

▶ MOULD OIL 20

PRODUCT CODE: 1450

PACK SIZES: 205L, 20L

A general purpose, high quality concrete release agent for formwork covering a wide usage range, from ornamental work to large surface areas. It is particularly suited to the precast industry. Consists of a mineral oil base plus a “fatty” surface active release agent and is designed with a high-viscosity such that it will not run off or absorb into wood and masonite formwork. Applied by spray, brush or swab at a rate of 65–75 m<sup>2</sup> per 4 litres.

**MOULD OIL 22**

**PRODUCT CODE:** 1325

**PACK SIZE:** Bulk

A concrete release oil for steel and plastic moulds with effective coverage by spray application.

**MOULD OIL 275**

**PRODUCT CODE:** 1452

**PACK SIZE:** Bulk

A product similar to Mould Oil 3, but more highly concentrated.

**MOULD OIL 3**

**PRODUCT CODE:** 1453

**PACK SIZE:** 205L

A low-viscosity die lubricant for clay extrusion (bricks, tiles, pavers and pipes) and a release agent for concrete. It prevents pick-up of clay on the die and clay surface imperfections. It is used extensively in concrete pipe manufacture. Applied by brush, swab or spray.

**MOULD OIL 4SDO**

**PRODUCT CODE:** 3210

**PACK SIZES:** Bulk, 1000L

A product similar to Mould Oil 3, but less concentrated. The principal use is as a steel demoulding oil for fibre boards.

Petrolatum

SNOW WHITE PETROLEUM JELLY

WHITE PETROLATUM

PRODUCT CODE: 1099

PACK SIZES: 20kg, 2.5kg

A highly purified white petrolatum.

APPLICATIONS

- Used in leather finishes.
- Softening agent for printing inks.
- Plasticiser for rubber.
- Component of carbon paper.
- Protection of battery terminals and certain military ordnance stores such as torpedoes and torpedo mechanisms.
- May be used for the same applications as DEF-2333 (UK, Australian and New Zealand Defence Standards), although it does not necessarily meet the specification requirements.

PROPERTIES

Density at 60°C, kg/L .....	0.85
Colour, Lovibond, 2" cell IP 17/52.....	0.3Y
Colour, USP31.....	Pass
Acidity or Alkalinity, USP31 .....	Pass
Melting Range, USP31 Class II, °C .....	53
Drop Melting Range, ASTM D127/USP31, °C .....	59
Organic Acids, USP 31 .....	Pass
Fixed Oils, Fats & Rosin, USP 31.....	Pass
Consistency at 25°C, USP 31, 0.1mm .....	168
Congearing Point, D938, °C.....	50
Kinematic Viscosity at 100°C, ASTM D114, mm²/s.....	6.18
Polynuclear compounds, FDA21 / CFR172.880.....	Pass



Rock Drill Oils

ROCK DRILL LUBE 100, 320, 460  
PNEUMATIC PERCUSSION TOOL LUBRICANT

ISO Grade	100	320	460
Product Code	1608	1609	2593

PRODUCT CODE: Refer to table above.

PACK SIZES: Refer to table below.

High-performance lubricant for percussion-type air tools. Formulated from highly refined mineral oils, extreme pressure (EP), oiliness and tackiness additives, emulsifiers, rust and corrosion inhibitors, and anti-foam and anti-fogging agents.



APPLICATIONS

- Percussion-type air tools operating under wet or dry conditions, including:
  - Rock drills
  - Concrete/pavement breakers (jackhammers)
  - Tampers
  - Rammers
  - Riveting and chipping hammers, etc.
- Centralised lubricators of larger crawler-mounted drill rigs.

Ambient temperature guidelines for adequate atomisation of air-line lubricators (OEM guidelines supersede these, and should always be followed):

Rock Drill Lube 100 .....5°C to 25°C  
Rock Drill Lube 320 .....Above 30°C

PACK SIZES

Rock Drill Lube	100	320	460
1000L	✓	✓	
205L	✓	✓	
20L	✓	✓	✓

Turbine Oils

➤ **GST EP 32, 46**  
**PREMIUM PERFORMANCE INDUSTRIAL ANTI-WEAR TYPE  
STEAM AND GAS TURBINE OIL**

<b>32</b>		<b>PRODUCT CODE:</b> 3291	<b>PACK SIZES:</b> 1000L. ISO 46 also available in 205L.
<b>46</b>		<b>PRODUCT CODE:</b> 3343	

Anti-wear type turbine oil formulated from premium base oils, an ashless anti-wear additive system, and rust and oxidation and foam inhibitors. Designed primarily for use in industrial gas and steam turbines including those with reduction gear sets.



**APPLICATIONS**

- Stationary industrial gas and steam turbines.
- Stationary industrial gas turbines with reduction gear sets.
- Industrial gas turbines in severe service.
- Hydraulic turbines.
- Rotating machinery in gas and steam combined-cycle cogeneration units.
- Bath and circulating systems supplying moderately loaded gear sets, low-pressure hydraulic systems, vacuum pumps, rolling element bearings, machine tools, conveyors, and electric motors.
- Air compressors, turbo-blowers and centrifugal pumps requiring a rust and oxidation inhibited, anti-wear oil.

Do not use in breathing air apparatus or medical equipment.

**PERFORMANCE STANDARDS**

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"><li>• ASTM D4304 Type II</li><li>• GEC Alstom NBA P50001 A &amp; P50003 A</li><li>• British Standard BS 489</li><li>• Chinese Specification GB1120-2011 L-TGA, L-TGE, L-TSA (Typ A), L-TSA (Typ B), L-TSE (Typ A)</li><li>• Cincinnati Machine (MAG) P-38 (ISO 32); P-55 (ISO 46)</li></ul> | <ul style="list-style-type: none"><li>• General Electric GEK 28143B</li><li>• General Electric GEK 101941A, 27070, 32568J, 46506D and E (ISO 32)</li><li>• German Standard DIN 51515 Part 1 and Part 2</li><li>• ISO 8068 L-TGA, L-TGE, L-TSA, L-TSE</li><li>• ISO 8068 AR, B (ISO 32)</li><li>• JIS K2213 Type 2</li></ul> | <ul style="list-style-type: none"><li>• MAN Turbo &amp; Diesel TQL T2 (ISO 32)</li><li>• Siemens MAT 812101, 812106, 812108 (ISO 32)</li><li>• Siemens MAT 812102, 812109 (ISO 46)</li><li>• Solar Turbines ES 9-224 Class II</li></ul> |
|---|---|---|

GST OIL 32, 46

PREMIUM PERFORMANCE INDUSTRIAL STEAM AND GAS TURBINE OIL

32 | PRODUCT CODE: 3156  
46 | PRODUCT CODE: 3157

PACK SIZE: 208L

Inhibited turbine oil formulated from premium base oil technology and rust, oxidation and foam inhibitors. Designed primarily for use in industrial gas and steam turbines. Also suited to many other industrial applications including air compressors where rust and oxidation (R&O) inhibited oils are recommended.



APPLICATIONS

- Steam and hydraulic turbines operating under all service conditions.
  - Industrial gas turbines operating under severe conditions.
  - Rotating machinery in gas and steam combined cycle cogeneration units.
  - Hydraulic turbines.
  - Centrifugal, rotary and reciprocating compressors, turbo-blowers and centrifugal pumps (not recommended for use in breathing air compressors).
  - Bath and circulating systems supplying rolling element bearings of all types, lightly loaded gear sets, vacuum pumps, machine tools, conveyors, electric motors, and low to moderate pressure hydraulic pumps where anti-wear properties are not required.
  - Reduction gear lubrication in marine operations requiring plain non-extreme pressure (EP) R&O type of oils.
- Do not use in breathing air apparatus or medical equipment.

PERFORMANCE STANDARDS

Approvals:

- Alstom HTGD 90117W for non-geared turbines
- Siemens TLV 9013 04 and 05 for turbosets without gearboxes

Meets the requirements of:

- ASTM D4304 Type I
- British Standard BS 489
- Chinese Specification GB1120-2011 L-TGA, L-TGSB L-TSA (Typ B)
- General Electric GEK 28143B
- General Electric GEK 27070, 32568J, 46506D and E (ISO 32)
- German Standard DIN 51515 Part 1 and Part 2
- Machine (MAG) P-38 (ISO 32); P-55 (ISO 46)
- Siemens MAT 812101 (ISO 32), 812102 (ISO 46)
- Siemens-Westinghouse M Spec 55125Z3 (ISO 32)
- Solar Turbines ES 9-224 Class II

➤ **GST PREMIUM 32**  
INDUSTRIAL GAS AND STEAM TURBINE OIL

**PRODUCT CODE:** 3257 **PACK SIZE:** Bulk

Turbine oil with good thermal and oxidative stability and approved for Mitsubishi Hitachi Power Systems (formerly Mitsubishi Heavy Industries) MS04-MA-CL002. It is suitable for use in gas and steam turbines where extreme temperatures are experienced, and which require circulation systems with high-temperature stability.

GST Premium turbine oil combines highly refined base stocks and a unique additive package minimising the formation of deposits in reservoirs, high-temperature bearings and other hot areas of the turbine.



**APPLICATIONS**

- Non-geared gas, steam and hydroelectric turbine bearing lubrication.
- R&O service in marine reduction gears.
- Industrial severe service requiring an R&O, ISO 32 circulating oil with extended service capability.

Do not use in high pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

**PERFORMANCE STANDARDS**

**Approved against**

- Alstom HTGD 90117 (non-geared turbine)
- Mitsubishi Hitachi Power Systems (formerly Mitsubishi Heavy Industries) MS04-MA-CL002 / MS04-MA-CL001
- Siemens TLV 901304 and TLV 901305 (non-geared turbine)

**Meets test requirements for:**

- ANSI/AGMA 9005-E02-R&O
- ASTM D4304-Type I / Type III (for non-geared turbines)
- British Standard BS 489:1999
- General Electric GEK 32568J, GEK 28143B, GEK 46506E and GEK 27070
- German Standard DIN 51515-1 and 51515-2
- ISO 8068-L-TSA and L-TGA
- MAN Diesel 7 Turbo TQLT2
- Solar Turbine ES9-224 Class II



REGAL® R&O 32, 46, 68, 100  
INDUSTRIAL TURBINE OIL

ISO Grade	32	46	68	100
Product Code	1334	1335	1336	1333

**PRODUCT CODE:** Refer to table above.

**PACK SIZES:** Refer to table below.

Inhibited turbine oil formulated from highly refined base stocks and special rust, oxidation and foam inhibitors. While principally turbine oils, these lubricants find some use in compressors.



APPLICATIONS

Suitable for use in the following applications provided a rust and oxidation (R&O) inhibited oil is acceptable:

- Steam and hydraulic turbines operating under all service conditions.
- Industrial gas turbines operating under moderate service conditions where the oil is not exposed to excessively high temperatures, or gearsets requiring enhanced load carrying performance.
- Bath and circulating systems supplying rolling element bearings of all types, lightly loaded gear sets, vacuum pumps, machine tools (including computer controlled units), conveyors, electric motors, and low to moderate pressure hydraulic pumps where anti-wear properties are not required.
- Centrifugal, rotary and reciprocating compressors, turbo-blowers and centrifugal pumps, requiring a R&O inhibited oil.

Do not use in breathing air compressors.

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

Suitable for use where the following are requested:

- ANSI/AGMA 9005-E02 for R&O inhibited oils
- ASTM D4304-06a Type I
- British Standard BS 489:1999
- Cincinnati Machine P-38, P-55, P-54 (ISO 32, 46, 68, respectively)
- General Electric GEK 27070, GEK 28143B, GEK 46506D
- German Standard DIN 51515 Part 1 (2001)
- Siemens TLV 9013 04
- Siemens MAT 812101 (ISO 32) and 812102 (ISO 46)
- Solar ES 9-224W Class II

Regal® R&O is approved against David Brown Table M – 0M, 1M, 2M, 3M (ISO 32 to 100, respectively).

PACK SIZES

ISO Grade	32	46	68	100
Bulk	✓			
1000L	✓	✓	✓	
205L	✓	✓	✓	✓
20L	✓	✓	✓	

▶ **REGAL® SGT 22**  
INDUSTRIAL & MARINE GAS TURBINE OIL

**PRODUCT CODE:** 3240 **PACK SIZE:** 208L

A synthetic polyol ester-based turbine lubricant for use in aeroderivative gas turbines in stationary and marine service. It contains additives to resist oxidation, corrosion and wear, promoting high-temperature thermal and oxidation stability.



**APPLICATIONS**

Regal®SGT 22 is recommended for aeroderivative gas turbines exposed to severe operating environments in non-aviation applications such as:

- Industrial power generation
- Gas transmission
- Marine propulsion.

Do not use in aircraft service.

Do not use in solar turbines requiring oils meeting Solar Specification ES 9-224 W – Class III OR MIL-PRF-23699F C/I specification.

See Product Data Sheet for Service Considerations.

**PERFORMANCE STANDARDS**

**Approved against**

- U.S. Military Specification MIL-PRF-23699F STD

**Holds formal approvals for use in the following gas turbines:**

- Rolls Royce RB211
- Rolls Royce Industrial Avon
- Rolls Royce (Allison) Industrial 501-K
- GE Energy Industrial Aeroderivative units

**TURBINE OIL SYMBOL 2190 TEP**  
CIRCULATING OIL FOR MARINE GEAR TURBINE SETS

**PRODUCT CODE:** 3338

**PACK SIZE:** 208L

Turbine Oil Symbol 2190 TEP was developed primarily as a circulating system oil for marine gear turbine sets, providing mild extreme pressure protection as well as resistance to rust, oxidation, corrosion, and foaming. The thermal and oxidation stability of Turbine Oil Symbol 2190 TEP allow it to withstand the high temperatures found in turbine bearing and gear lubrication. The foam inhibition of this formulation helps prevent the buildup of foam in the sump tank with possible vent pipe overflow. The stability, high-viscosity index, and rust and corrosion inhibition help assure high film strength lubrication for gears and bearings, as well as rust and corrosion protection. Together, these qualities promote both long lubricant and equipment life. The extreme pressure (EP) properties enable Chevron® Turbine Oil Symbol 2190 TEP to meet the requirements of MIL-PRF-17331J.



**APPLICATIONS**

- Marine turbine reduction gears, where heavy tooth loading and shock loads are encountered.
- Do not filter through Fuller's earth-type filtration systems since this would deplete the additive package.
- Do not use in breathing air apparatus or medical equipment.
- Do not use in high-pressure systems in the vicinity of flames, sparks and hot surfaces.

- Use only in well ventilated areas.
- Keep container closed.

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

**PERFORMANCE STANDARDS**

**Approved against**

- U.S. Military Specification MIL-PRF-17331J

Transformer Oils

TRANSFORMER OIL BSI  
ELECTRICAL INSULATING OIL

PRODUCT CODE: 1692

PACK SIZE: 205L

Highly refined, naphthenic transformer oil. For use where insulating oils meeting IEC 60296-2003 Class I, BS148:1998 Class I or Australian Standard AS 1767.1-1999 transformer oil specifications are recommended. Does not contain polychlorinated biphenyls (PCBs).



APPLICATIONS

- Transformers
- Oil-immersed switchgear
- Circuit breakers
- Oil-filled capacitors
- Tap changers
- Electrical reclosures
- Fuses

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Australian Standard AS 1767.1-1999 Class I
- IEC 60296-2003
- ASTM D3487 Type 1

TRANSFORMER OIL BSI INHIBITED  
ELECTRICAL INSULATING OIL

PRODUCT CODE: 1693

PACK SIZE: 205L

Highly refined, inhibited, naphthenic transformer oil. For use in severe conditions, such as high ambient temperatures, where oxidation-resistant and thermally stable insulating oils meeting IEC 60296-2003 Class IA or BS148:1998 Class IA transformer oil specifications are recommended. Does not contain polychlorinated biphenyls (PCBs).



APPLICATIONS

- Transformers
- Oil-immersed switchgear
- Circuit breakers
- Oil-filled capacitors
- Tap changers
- Electrical reclosures
- Fuses

See Product Data Sheet for Service Considerations.

PERFORMANCE STANDARDS

- Australian Standard AS1767.1-1999 Class IA
- IEC 60296-2003

# Vacuum Pump Oils

VACUUM PUMP OIL R31

VACUUM PUMP OIL

PRODUCT CODE: 1595

PACK SIZE: 4L

Vacuum Pump Oil R31 is an ISO 68 oil blended from high quality solvent refined paraffinic basestocks. It does not contain additives and hence eliminates the possibility of vapour pressure increases due to additive introduced volatility.



APPLICATIONS

- Vacuum pumps, particularly those associated with the refrigeration trade and milk primary producers.
- Only for use in clean machines.
- Originally designed for Robinaire vacuum pumps which were widely used in the refrigeration industry for vacuum down to 0.01 mmHg.

PERFORMANCE STANDARDS

- ISO 68

# GREASES








# GREASES

<b>LITHIUM COMPLEX</b>	<b>129</b>
DELO® GREASE EP 2	129
LIPLEX S220	129
LIPLEX EP2	130
LIPLEX HEAVY DUTY 2	130
MINE GREASE PREMIUM FINE	131
MINE GREASE PREMIUM 2	131
MINE GREASE PREMIUM WINTER	132
<b>LITHIUM</b>	<b>133</b>
ULTRA DUTY® GREASE EP 1, 2	133
EP GREASE C	134
MOLYGREASE EP 2	135
MOLYGREASE HD 2	135
PREMIUM COTTON PICKER GREASE	136
TM GEAR LUBE PREMIUM	136
LV GREASE 3	137
<b>ALUMINIUM COMPLEX</b>	<b>138</b>
FOOD MACHINERY GREASE	138
<b>CALCIUM AND CALCIUM COMPLEX</b>	<b>139</b>
TEXCLAD® 2	139
TEXANDO® FO 20 EP	139
<b>BENTONE NON-MELT</b>	<b>140</b>
ANTI-SEIZE GREASE	140
MULTIPURPOSE GREASE GREEN	140
<b>POLYUREA</b>	<b>141</b>
EMG 2	141

# Lithium Complex



**DELO® GREASE EP 2**

SPECIALTY AUTOMOTIVE AND INDUSTRIAL GREASE


**PRODUCT CODE:** 2909

**PACK SIZES:** 1250kg, 720 kg, 180kg, 20kg, 450g, 240g.  
Note: A pack of 6 pump units for the 240g packs is available under product code 3253-610.

Premium performance technically advanced multipurpose automotive and industrial EP grease designed for superior performance under harsh conditions. Delo® Grease EP 2 is formulated with highly refined base stock, an advanced additive package and a temperature stable lithium complex thickener. Brilliant blue in color.



<b>APPLICATIONS</b> <ul style="list-style-type: none"><li>• Heavy-duty on-road truck and bus wheel bearings.</li><li>• Truck and bus chassis lubrication.</li><li>• Heavy-duty off-road vehicle wheel bearings.</li><li>• General automotive wheel bearing and chassis lubrication.</li><li>• Fifth wheel lubrication.</li><li>• General industrial greasing.</li></ul> <p>Usable temperature range in continuous service is -40°C to 140°C. Maximum temperature for short term exposure is 177°C.</p>	<b>PERFORMANCE STANDARDS</b> <ul style="list-style-type: none"><li>• NLGI Service Category GC-LB</li><li>• Meets Mack MG-C specification</li></ul>
--	--



**LIPLEX S220**

SYNTHETIC EP LITHIUM COMPLEX GREASE

**PRODUCT CODE:** 3356

**PACK SIZES:** 180kg, 20kg, 450g, 240g.  
Note: A pack of 6 pump units for the 240g packs is available under product code 3253-610.

Liplex S220 is a lithium complex lubricating grease formulated with 100% synthetic hydrocarbon fluids (PAO). This product has been formulated with a special additive package which ensures high film strength, extreme pressure (EP) and anti-wear properties. In addition, this product has a high dropping point in excess of 260°C as well as exhibiting low-temperature performance to temperatures of -40°C.



<b>APPLICATIONS</b> <ul style="list-style-type: none"><li>• Heavy-duty industrial and automotive applications where an NLGI 2 grease with ISO VG 220 synthetic base fluid is recommended.</li></ul> <p>Usable temperature range for continuous service is -40 to 140°C. Maximum temperature for short-term exposure is 220°C.</p>
---

**LIPLEX EP2**  
MULTIPURPOSE EP LITHIUM COMPLEX GREASE

**PRODUCT CODE:** 1090 **PACK SIZES:** 180kg, 55kg, 20kg, 2.5kg, 450g, 240g.  
Note: A pack of 6 pump units for the 240g packs is available under product code 3253-610.

Multipurpose extreme pressure (EP) high melting point lithium complex grease offering shear stability, thermal stability, water resistance and pumpability. It has an NLGI grade 2 consistency. It contains a tackiness agent.



**APPLICATIONS**

- Where high thermal and oxidation stability and high water resistance are required.
  - Where either soap based or clay based greases are recommended, particularly where rationalisation of grease types is required.
  - These applications include automotive, industrial, mining, earthmoving and marine applications such as wheel bearings, chassis, pre-packed and sealed-for-life bearings in steel, cement, sugar, mining and other heavy industries, boat trailer wheel bearings, outboard motor fittings, winches, splines, cables, rollers and linkages.
- Usable temperature range in continuous service is -25 to 140°C. Maximum temperature for short term exposure is 220°C.

**LIPLEX HEAVY DUTY 2**  
HEAVY-DUTY INDUSTRIAL AND AUTOMOTIVE GREASE

**PRODUCT CODE:** 3043 **PACK SIZES:** 180kg, 20kg, 450g

Premium, multipurpose, extreme pressure (EP), heavy-duty industrial and automotive grease containing an ISO 680 mineral base oil, a lithium complex thickener, EP additives, rust and oxidation inhibitors and polymer additives. Brown in colour. It is available only in an NLGI grade 2.



**APPLICATIONS**

- Industrial applications, construction equipment and agricultural tractors where, due to extremely heavy loads, a more viscous base oil is required to provide a thicker lubricating film.
  - Heavy-duty automotive service such as wheel bearings and chassis on trucks and buses.
- Usable temperature range in continuous service is -15 to 130°C. Maximum temperature for short term exposure is 210°C.

## MINE GREASE PREMIUM FINE SPECIALTY INDUSTRIAL GREASE

**PRODUCT CODE:** 3349

**PACK SIZES:** 1250kg, 180kg

A lithium complex grease formulated with high-viscosity base oils, extreme pressure (EP) additives, rust and oxidation inhibitors and molybdenum disulfide of particle size  $\leq 5 \mu\text{m}$ . Strong tackiness promotes good adherence. Designed for slow to medium speed bearings. Suitable for heavy-duty industrial, mining, construction and agricultural equipment, particularly where high loads and shock loads are encountered. Similar to mine Grease Premium 2, but with a finer grade of molybdenum disulfide.



### APPLICATIONS

- Mining, earthmoving and quarrying.
- Construction equipment.
- Agricultural equipment.
- Centralised lubrication systems.
- Heavy-duty industrial greasing.
- Industrial plain and rolling element bearings.

Usable temperature range in continuous service is -20 to 130°C.  
Maximum temperature for short term exposure is 220°C.

### PERFORMANCE STANDARDS

- Komatsu Mining Germany GmbH Works Standard

## MINE GREASE PREMIUM 2 SPECIALTY INDUSTRIAL GREASE

**PRODUCT CODE:** 3021

**PACK SIZES:** 1250kg, 180kg, 20kg, 450g, 240g.

Note: A pack of 6 pump units for the 240g packs is available under product code 3253-610.

NLGI grade 2 lithium complex grease formulated with high-viscosity base oils, extreme pressure (EP) additives, rust and oxidation inhibitors and molybdenum disulfide. Strong tackiness promotes good adherence. Designed for slow to medium speed bearings. Suitable for heavy-duty industrial, mining, construction and agricultural equipment, particularly where high loads and shock loads are encountered.



### APPLICATIONS

- Mining, earthmoving and quarrying.
- Construction equipment.
- Agricultural equipment.
- Centralised lubrication systems.
- Heavy-duty industrial greasing.
- Industrial plain and rolling element bearings.

Usable temperature range in continuous service is -20 to 130°C.  
Maximum temperature for short term exposure is 220°C.

### PERFORMANCE STANDARDS

- Komatsu Mining Germany GmbH Works Standard

MINE GREASE PREMIUM WINTER  
SPECIALTY INDUSTRIAL GREASE

PRODUCT CODE: 3194

PACK SIZES: 1250kg, 720kg, 180kg

NLGI 1 lithium complex grease formulated with high-viscosity base oils, EP additives, rust and oxidation inhibitors and molybdenum disulfide. Designed for slow to medium speed bearings. Suitable for heavy-duty industrial, mining, construction and agricultural equipment, particularly where high loads and shock loads are encountered. Designed for use in southern Australian climates during the cooler months of June to August.



<p><b>APPLICATIONS</b></p> <ul style="list-style-type: none"><li>• Mining, earthmoving and quarrying.</li><li>• Construction equipment.</li><li>• Agricultural equipment.</li><li>• Centralised lubrication systems.</li><li>• Heavy-duty industrial greasing.</li><li>• Industrial plain and rolling element bearings.</li></ul> <p>Usable ambient temperature in continuous service is -10 to 18°C. The Australian Bureau of Meteorology website shows a map of Average Daily Maximum Temperature where the month may be selected. See Product Data Sheet for Service Considerations.</p>	<p><b>PERFORMANCE STANDARDS</b></p> <ul style="list-style-type: none"><li>• Komatsu Mining Germany GmbH Works Standard</li></ul>
---	--

Lithium

ULTRA DUTY® GREASE EP 1, 2  
AUTOMOTIVE CHASSIS & BUSHING AND  
SPECIALTY INDUSTRIAL GREASE

NLGI 1 | PRODUCT CODE: 1076  
NLGI 2 | PRODUCT CODE: 1077

PACK SIZES: Refer to the table below.

Note: A pack of 6 pump units for the 240g packs is available under product code 3253-610.

Premium, heavy-duty extreme pressure (EP) grease containing a high-viscosity mineral oil, lithium thickener, effective EP additive, rust and oxidation inhibitors and tackiness agent. Stay-in-place properties make it particularly suitable for automotive and industrial equipment operating in wet, muddy or dusty conditions. Red in colour.



APPLICATIONS

Automotive

- Heavy-duty transport
- Chassis lubrication
- Construction equipment
- Agricultural tractors
- Off-highway construction
- Mining
- Logging and forestry
- Quarrying

Industrial

- Pulp and paper machinery
- Mining
- Logging and forestry
- Quarrying
- Material handling equipment
- Dredging equipment
- Offshore oil drilling
- Marine deck equipment
- General industrial greasing

PACK SIZES

NLGI	1	2
1250kg	✓	✓
180kg	✓	✓
55kg		✓
20kg	✓	✓
2.5kg		✓
450g		✓
240g	✓	

Usable temperature range in continuous service is -20 to 140°C for the NLGI 1 grade and -10 to 140°C for the NLGI 2 grade. Maximum temperature for short term exposure is 155°C for NLGI 1 and 165°C for NLGI 2.

Not recommended for wheel bearing lubrication of on-highway vehicles.

See Product Data Sheet for Service Considerations.

EP GREASE C  
MULTIPURPOSE EXTREME PRESSURE GREASE

NLGI Grade	000	00	0	1	2	3
Product Code	1082	1081	1080	1083	1084	1085

**PRODUCT CODE:** Refer to table above. **PACK SIZES:** Refer to the table below.

EPC Greases are multipurpose extreme pressure (EP), industrial and automotive greases made from lithium soap, sulfur phosphorus extreme pressure additives, high quality base oils and rust and oxidation inhibitors.

EPC Greases have good load carrying capacity and good resistance to water washing. They are stable in storage and do not soften excessively under severe working, or harden in high-temperature service. They are manufactured in NLGI grades 000, 00, 0, 1, 2 and 3.



APPLICATIONS

- General purpose grease applications on passenger cars, trucks, buses, trailers and farm tractors and industrial equipment. These include wheel bearings (where lower operational temperatures occur), anti-friction bearings, ball joints, all chassis points, universal joints, splines, linkages, water pumps and steering gears.
- General industrial and agricultural use, including needle and plain bearings, cranes, pumps, winches and other equipment, particularly where heavy or shock loads require the use of extreme pressure greases with good retention properties.
- Used in prepacked and sealed-for-life bearings.

PERFORMANCE STANDARDS

- GMH HN1729, HN1421
- Ford ESN-MIC-160A/B, ESB-MIC-119A

- EPC 2 is a general multipurpose bearing grease for automotive and industrial equipment and EPC3 is for larger bearings subject to vibration (trucks and tractors).
- EPC 000, 00 and 0 are popular in centralised systems on underground coal mining machinery, as track roller lubricants and in rotary slasher gearboxes.

Not recommended for use in high-temperature applications, e.g. wheel bearings used in conjunction with disc brakes.

Operating temperatures as per Typical Characteristics table in the Reference section.

Maximum temperature for short term exposure for NLGI 1, 2 and 3 is 175°C.

PACK SIZES

NLGI	000	00	0	1	2	3
180kg	✓	✓	✓	✓	✓	✓
55kg	✓	✓	✓	✓	✓	✓
20kg					✓	✓



## **MOLYGREASE EP 2** EXTREME PRESSURE GREASE

**PRODUCT CODE:** 1093

**PACK SIZES:** 180kg, 20kg, 450g

Molygrease EP 2 is a multipurpose, extreme pressure (EP), lithium soap based grease containing molybdenum disulfide. It contains rust and oxidation inhibitors and sulfur phosphorus EP additives. It possesses good mechanical stability, water resistance and low temperature properties. It is black in colour.



### **APPLICATIONS**

- Heavily loaded industrial and automotive applications.
- Mining and construction vehicles such as scrapers, loaders, shovels and off-highway trucks in dusty or wet conditions.
- All grease lubricated chassis points on passenger cars, trucks, buses, trailers, and farm equipment, including kingpins, shackle pins, steering joints, universal joints and fifth wheels (semi-trailer support turntables) on trucks.
- Ball joint suspensions on passenger cars where the presence of molybdenum disulfide may reduce noise and steering effort.
- Industrial applications such as low to medium load bearings, steam turbine pedestal slides, screw threads, screw railway couplings, adjustable tension rods and steam valves.
- Particularly recommended for applications where movement is slow, restricted or intermittent and where movement is small but of high frequency. In these applications the solid film of molybdenum disulfide will provide protection against wear, fretting corrosion and stick-slip effects.
- High-temperature conditions, such as conveyor belts in ovens, because even though the grease chars or evaporates, the molybdenum disulfide is left behind to provide lubrication.

Usable temperature range in continuous service is -30 to 130°C. Maximum temperature for short term exposure is 175°C.

### **PERFORMANCE STANDARDS**

- GMH HN 1416
- Ford ESA-MIC-75A/B

## **MOLYGREASE HD 2** HEAVY-DUTY EXTREME PRESSURE GREASE

**PRODUCT CODE:** 3345

**PACK SIZES:** 1250kg, 180kg, 20kg

Molygrease HD 2 is a high quality, NLGI grade 2, multipurpose, lithium based grease. It is formulated with high-viscosity base oils and fortified with extreme pressure (EP) additives and molybdenum disulfide to provide protection where high and shock loads are encountered, especially in heavy mining, industrial and agricultural equipment.

Molygrease HD 2 resists oxidation and corrosion and has good mechanical and thermal stability together with good water resistance and pumpability.



### **APPLICATIONS**

- Heavy-duty mining equipment including excavators, hydraulic shovels, rope shovels, draglines, haul trucks, loaders and dozers
- Heavy-duty mining, industrial, agricultural, and automotive equipment particularly where high loads and shock loads are encountered.
- Slower speed, heavily loaded bearings in industrial applications such as sugar mills, roll mills and crushers.
- Wheel bearings, anti-friction bearings, linkages, pins, bushes, turntables, chassis, shackle joints, universal joints, ball joints and other applications in mining, agricultural and construction equipment such as tractors, scrapers, loaders, shovels and off-highway trucks.

Usable temperature range in continuous service is -20 to 120°C. Maximum temperature for short term exposure is 160°C.

PREMIUM COTTON PICKER GREASE  
COTTON PICKER GREASE

PRODUCT CODE: 1056

PACK SIZE: 175kg

Light green, smooth textured grease formulated to provide protection from wear, rust and corrosion as well as ensuring freedom from sticky, water soluble deposits. An extreme pressure (EP) additive helps reduce sliding wear throughout the mechanisms of the cotton picker.



APPLICATIONS

- Picker spindles, picker bars and chassis bearings of Case, IHC and John Deere mechanical cotton pickers.
- Usable temperature range in continuous service is -30 to 100°C.

PERFORMANCE STANDARDS

- JI Case B-27
- John Deere JD 305, JD 360

TM GEAR LUBE PREMIUM  
TRACTION MOTOR GEAR LUBRICANT

PRODUCT CODE: 1075

PACK SIZES: 180kg, 450g

Black, adhesive, semi-fluid grease specifically designed for lubrication of traction motor gear cases of diesel-electric locomotives. Contains a lithium thickener, very high-viscosity base fluid and special extreme pressure (EP) additive system.



APPLICATIONS

- Traction motor gear cases (incorporating appropriate seal designs) where semi-fluid grease-type lubricants are specified.
- Older non-sealed traction motor designs that normally use heavy residual-type gear lubricants, where the higher leakage rate that may result is acceptable.
- Slow to medium speed industrial gear applications where an EP semi-fluid grease is recommended.

PERFORMANCE STANDARDS

- General Motors EMD Specification EMS 1045

LV GREASE 3  
MULTIPURPOSE GREASE

PRODUCT CODE: 3282

PACK SIZES: 20kg, 450g, 240g.

Note: A pack of 6 pump units for the 240g packs is available under product code 3253-610.

Multipurpose buttery textured, amber coloured grease made with simple lithium thickener designed for long service life. The selected additives give protection against normal corrosive and mechanical wear. The product has effective resistance to water and good pumpability. It is an NLGI grade 3.



APPLICATIONS

LV Grease 3 is recommended for general industrial applications such as the lubrication of electric motors, plain and anti-friction bearings, gears and grease lubricated couplings in industrial plants operating under moderate load conditions where an ISO 100 basestock non-EP simple lithium grease is suitable. It also finds application in automotive equipment, trucks and tractors.

Usable temperature range in continuous service is: -30 to 130°C.

PERFORMANCE  
STANDARDS

- NLGI LB in chassis applications

# Aluminium Complex

▶

FOOD MACHINERY GREASE

FOOD MACHINERY GREASE

PRODUCT CODE: 1086

PACK SIZE: 20kg

Multipurpose, extreme pressure (EP), premium quality NLGI No. 2 grease for lubrication of food machinery and canning equipment, especially where incidental contact with food may occur. Pure white, odourless and tasteless. Manufactured from pharmacopoeia grade white mineral oil with a special aluminium complex thickener and contains rust and oxidation inhibitors and extreme pressure additives. All ingredients meet Section 178-3570 of the US Food and Drug Administration regulations and it is approved by AQIS as a Lubricant Type A – for use wherever food or food products may be subject to incidental contact with the lubricant.



### APPLICATIONS

- Machinery and equipment used in producing, manufacturing, packaging, processing, preparing, treating, transporting or holding food.
- Plain and anti-friction bearings, slides, guides and other moving parts.

Usable temperature range in continuous service is -30 to 160°C. Maximum temperature for short term exposure is 210°C.

### PERFORMANCE STANDARDS

- USFDA: Approved Type H-1 Grease. Ingredients meet requirements of Section 178-3570
- US Dept of Agriculture: Accepted for inspected meat and poultry processing plants
- Australian Department of Primary Industries and Energy, Australian Quarantine & Inspection Service: Approved Lubricant Type A

# Calcium and Calcium Complex

**TEXCLAD® 2**  
SPECIALTY INDUSTRIAL GREASE

**PRODUCT CODE:** 1072

**PACK SIZE:** 20kg


Proven performance, NLGI grade 2, adhesive open gear grease based on a water-stabilised calcium thickener and high-viscosity mineral oils. Containing graphite and molybdenum disulfide additives to offer reliable protection in heavy-duty operations. Smooth and buttery texture, black in colour.



**APPLICATIONS**

- Exposed gears in construction, mining and industrial equipment.
- Dipper sticks on excavating shovels.
- Automotive fifth wheels (tractor-trailer turntables).
- Steel girth gears (girth tyres) on rotary kilns and crushing mills.
- Sugar mill plain bearings, when fluid lubricants tend to leak.

Usable temperature range in continuous service is -10 to 80°C. (May be used at much higher temperatures where the carrier grease is thermally decomposed, leaving the solid mineral additives to afford lubrication.)

**TEXANDO® FO 20 EP**  
SPECIALTY INDUSTRIAL GREASE

**PRODUCT CODE:** 1071

**PACK SIZE:** 180kg

*Texando® CX 2 EP will supersede Texando® FO 20 EP in 2016.*

Premium, NLGI grade 2 industrial bearing grease suitable for use over a wide temperature range, containing calcium complex thickener, a highly refined ISO 100 mineral oil, antioxidants and corrosion inhibitors. Yellow-brown in colour with a smooth, tacky texture.



**APPLICATIONS**

- Plain and anti-friction bearings in high-temperature industrial applications.
- Rolling and casting machinery in steel and other metals manufacturing.
- Rotary cement kiln shafts.
- Extrusion presses, calendars and other rolling equipment in rubber, plastics and paper manufacturing.
- Other industrial applications where equipment may be subject to high temperatures, heavy loads and/or water wash out.
- Washing and pressing machines in commercial laundries.
- Suitable for centralised lubrication systems.

Usable temperature range in continuous service is -30 to 150°C.  
Maximum temperature for short term exposure is 250°C.  
Temperatures exceeding 150°C requires frequent relubrication.

**PERFORMANCE STANDARDS**

- Approved by Voest-Alpine continuous casting

Bentone Non-Melt

ANTI-SEIZE GREASE  
ANTI-SEIZE COMPOUND

PRODUCT CODE: 3056

PACK SIZES: 20kg, 2.5kg, 500g

Formulated with a high content of selected solid lubricants for the lubrication and protection of metal-to-metal parts. The synergistic mixture of solid particles gives the product good performance as an anti-seize compound impeding wear, welding and thus allowing easy assembly and disassembly of parts. In addition, it contains extreme pressure, anti-wear and anti-oxidation additives that assist in providing protection in highly corrosive environments and in high-temperature conditions. It protects assemblies exposed to extreme temperatures (to 900°C).



APPLICATIONS

- As an anti-seize compound/lubricant in areas where high temperatures, high torque, high pressure, sealing or corrosion present a problem. Such areas include the mining, exploration, industrial, marine, automotive and transportation fields and also domestic and handyman applications.
- As a gasket coating and thread lubricant for industrial boiler, oven and furnace fittings, valves and flanges. Similarly for automotive cylinder head gaskets, exhaust manifold threads, exhaust system joints and other applications where very high temperatures are encountered.
- As an anti-seize lubricant for drill collars, tool joints and wire line dressing in the mineral and oil exploration fields.
- As a lubricant/corrosion preventive in areas of acidic or salt attack such as threads around acid baths in plating works, sulfuric acid plants and timber processing plants where acetic acid in wood sap is particularly corrosive.
- For numerous domestic and handyman applications such as wood screws, nuts and bolts, hinges exposed to weather, heating stove fittings, etc.
- As a lubricant for feed screws, adjusting screws, brake linkages, drive chains, etc., particularly on earthmoving equipment and in similar applications.

Usable temperature range in continuous service is -25 to 130°C.

May be used at much higher temperatures (up to 900°C) where the carrier grease is decomposed, leaving the solid additives to afford lubrication.

MULTIPURPOSE GREASE GREEN  
BENTONE NON-MELT GREASE

PRODUCT CODE: 2998

PACK SIZES: 180kg, 20kg, 450g

Non-melting grease formulated from a highly refined ISO 460 mineral base oil and an organoclay (bentonite) thickener with effective oxidation resistance for high-temperature applications.



APPLICATIONS

- Automotive and industrial use especially where high-temperatures are encountered.
- Automotive wheel bearings.
- Industrial ball and roller bearings in high-temperature applications.
- Exhaust fan bearings.
- Furnace door bearings.
- Kiln car wheel bearings.
- Roll neck bearings.
- High-temperature conveyor bearings.
- Rotary kiln bearings.

Usable temperature range for continuous service is -20 to 135°C. Maximum temperature with frequent relubrication is 260°C.

This product must not be mixed with any grease other than similar bentonite clay-based products.

## Polyurea

### EMG 2

#### ELECTRIC MOTOR GREASE

**PRODUCT CODE:** 3369

**PACK SIZES:** 180kg, 20kg, 450g

Premium quality electric motor bearing grease. It is also a multipurpose, long-life grease for high-temperature ball and roller bearings. It exhibits effective thermal stability and high-temperature capabilities. It also has good shear stability and water resistance characteristics and resists washout. It maintains its consistency under severe working conditions, and resists rust and oxidation. The selected additive package enables use in severe applications as well as providing extreme pressure (EP) properties. It is effective at high temperatures due to reversibility characteristics. It is dyed blue for easy identification.



#### APPLICATIONS

- Electric motor, fan and air-conditioning unit bearings.
- High-speed bearings operating under high- or low-temperature conditions.
- Sealed-for-life bearings.
- Industrial ball and roller bearings.
- Automotive alternator, generator and starter motor bearings.
- Water pump bearings.
- Boat trailer wheel bearings.

Useable temperature range for continuous service is -20 to 150°C.

Maximum temperature for short-term exposure is 175°C.



# CLEANERS



# CLEANERS

<b>DEGREASERS</b>	<b>145</b>
KWIK DEGREASER	145
SAFE-D-GREASER	145
SAFE-D-GREASER QB	146
<b>DETERGENTS</b>	<b>147</b>
TOUGH CLEAN	147
TRUCK CLEAN	147
<b>HAND CLEANER</b>	<b>148</b>
HAND CLEAN	148
<b>COTTON PICKER CLEANER</b>	<b>149</b>
COTTON PICKER SPINDLE CLEANER	149
<b>SPILL ABSORBENTS</b>	<b>150</b>
ENRETECH-1	150
ENRETECH XTRASORB	150
ENRETECH KLEEN SWEEP	151
ENRETECH SPILL KIT	151

## Degreasers

Degreasers are specifically formulated to have minimum possible adverse effects on operators. However, as with all petroleum solvents, care should be taken not to inhale the spray or vapour and skin contact should be avoided as much as possible. The use by operators of a reputable brand of barrier cream or of protective gloves is recommended. Degreasers should be employed only in a well ventilated area and away from naked flames. The emulsifiers are biodegradable. However the grease, dirt and solvent are not. Attention must be paid to local, State and other ordinances, rules and regulations governing the discharge of effluent into sewers and waterways. It may be necessary to treat the effluent material before discharge.

### KWIK DEGREASER AEROSOL DEGREASER

**PRODUCT CODE:** 1439

**PACK SIZE:** 400g aerosol

A high quality aerosol degreaser manufactured from high power petroleum solvents combined with a selected biodegradable emulsifier system for quick, efficient operation. It has an extremely low flashpoint (-60°C) due to the propellant gas.



#### APPLICATIONS

- Quick and easy removal of grease and oil from all kinds of machinery, garage floors, driveways, trailers and alloy wheels, etc.

Not to be used for bath or dipping type cleaning methods or for cleaning bitumen roads, paths or driveways.

#### WARNING

Kwik Degreaser is a Packaging Group III Flammable Liquid. Care in use and handling must be exercised in accordance with the SAA flammable and combustible liquids code AS1940-1993.

### SAFE-D-GREASER HIGH FLASH DEGREASER

**PRODUCT CODE:** 1618

**PACK SIZES:** 1000L, 205L, 20L

A high quality degreaser which emulsifies rapidly for quick removal with water. It is manufactured from a high power solvent combined with a selected biodegradable emulsifier system for quick, efficient operation. Undyed, with a flashpoint of more than 61°C.



#### APPLICATIONS

- Cleaning and removal of grease and oily residues from tools, machinery, engines, concrete paving and floors.
- Recommended when bath or sink type cleaning methods are used.

Not to be used for cleaning bitumen roads, paths or driveways.

The method of application depends on the size and number of the articles being cleaned. Tools and small parts can be soaked in a container or sink, while machines or large floor areas may be cleaned by applying the oil through spraying, brushing or swabbing.

#### WARNING

Safe-D-Greaser is a Class C1 Combustible Liquid. Care in use and handling must be exercised in accordance with the SAA flammable and combustible liquids code AS1940-1993.

**SAFE-D-GREASER QB**

QUICK BREAK HIGH FLASH DEGREASER

PRODUCT CODE: 2620

PACK SIZES: 1000L, 205L, 20L

A high quality degreaser which emulsifies rapidly for quick removal with water. It is a rapid quick break degreaser manufactured from a high power solvent combined with a selected biodegradable emulsifier system for quick, efficient operation and is ideal for use with waste recovery systems where separators or oil skimmers are installed. Red in colour with a flashpoint of more than 65°C.



APPLICATIONS

- Cleaning and removal of grease and oily residues from tools, machinery, engines, concrete paving and floors.

Not to be used for bath or dipping type cleaning methods, due to the quick break technology used.

Not to be used for cleaning bitumen roads, paths or driveways.

WARNING

Safe-D-Greaser QB is a Combustible Liquid. Care in use and handling must be exercised in accordance with the SAA flammable and combustible liquids code AS1940-1993.

Detergents

TOUGH CLEAN  
HEAVY-DUTY INDUSTRIAL CLEANER

PRODUCT CODE: 3174

PACK SIZES: 1000L, 200L, 20L.

Note: Pump kits for the 20L pack are available under code 3181.

Tough Clean is a water based, multipurpose cleaning detergent suitable for a wide range of industrial and automotive applications including the heavier duty demands of mining equipment and fishing and trucking fleets through to routine janitorial cleaning. It is water based, non-flammable and free of odour. It is coloured dark pink.



APPLICATIONS

- Agricultural equipment
- Industrial equipment
- Mining, quarrying and earthmoving equipment
- Mobile and stationary equipment
- Transport fleets
- Routine and janitorial cleaning purposes such as:
  - Flooring
  - Commercial and home kitchens (including as a dishwashing fluid)
  - Cafeterias and bathrooms
  - General purpose office and office furniture cleaning solution.

Not suitable for use on sensitive surfaces such as aluminium, zinc and tin.

DIRECTIONS FOR USE

Tough Clean can be used at a range of dilutions to suit the nature and severity of the surfaces to be cleaned.

As a general guide:

Recommended Applications	Manual Washing	High Pressure Washing
General cleaning – walls, floors, benches	1:100	1:100
Mining and agricultural equipment	1:50	1:80
Spray-on/wipe-off spot cleaning (hard surfaces)	1:10	
Workshop floor and undercarriage degreasing	1:5 to 1:40	1:80
Degreasing engine parts	1:5 to 1:10	1:50

SAFETY PRECAUTIONS: The ingredients used in Tough Clean are considered non-hazardous. However, avoid contact with skin, eyes and clothing. Do not take internally. Refer to appropriate Safety Data Sheet (SDS).

TRUCK CLEAN  
HEAVY-DUTY AUTOMOTIVE CLEANER

PRODUCT CODE: 3173

PACK SIZES: 1000L, 200L, 20L, 5L.

Note: Pump kits for the 20L pack are available under code 3181.

Truck Clean is a water based, heavy-duty solvent-free detergent for cleaning vehicles and equipment without damaging paint work. It emulsifies instantly to remove dirt, mud, oil film, grime and insects. It is coloured pale blue.



APPLICATIONS

- Heavily soiled vehicles
- Transport Fleets
- Mobile and stationary equipment
- Industrial equipment
- Mining, quarrying and earthmoving equipment
- Light commercial vehicles and passenger cars.

DIRECTIONS FOR USE

Recommended Applications	Manual Washing	High Pressure Washing
Trucks, buses and heavy vehicles	1:80	1:100
Cars and light commercial vehicles	1:100	1:100
Walls, floors, benches	1:100	1:100
Workshop floor and undercarriage degreasing	1:5 to 1:40	1:80
Mining and agricultural	1:50	1:80

SAFETY PRECAUTIONS: The ingredients used in Tough Clean are considered non-hazardous. However, avoid contact with skin, eyes and clothing. Do not take internally. Refer to appropriate Safety Data Sheet (SDS).



Hand Cleaner

**HAND CLEAN**  
HEAVY-DUTY HAND CLEANER

**PRODUCT CODE:** 3172

**PACK SIZES:** 20L, 3.5L.  
Note: Pump kits for the 20L pack are available under code 3181.  
Wall brackets for the 3.5L pack are available under code 2960.

Hand Clean is a water based hand cleaner containing natural citrus based solvent to cut through grease, and polymer beads which assist in mechanically removing grit from hands. Also contains lanolin which assists in keeping hands smooth, even after many washes. It is coloured yellow.



APPLICATIONS

- Abattoirs
- Assembly plants
- Carwash and valet facilities
- Furniture and woodworking factories
- Mobile repair vehicles
- Office washrooms
- Printing plants
- Trucks and other transport equipment
- Tyre fitting workshops
- Tyre manufacturing factories
- Workshops

DIRECTIONS FOR USE

Apply a small amount into palm of hand. Rub well into hands and allow grit to remove the oil and dirt. Rinse off with water.

SAFETY PRECAUTIONS: The ingredients used in Hand Clean are considered non-hazardous. However, avoid contact with skin, eyes and clothing. Do not take internally. Refer to appropriate Material Safety Data Sheet (MSDS).



# Cotton Picker Cleaner

## COTTON PICKER SPINDLE CLEANER EMULSIFIABLE CLEANING OIL

**PRODUCT CODE:** 1370

**PACK SIZES:** 205L, 20L

Cotton Picker Spindle Cleaner is a low-viscosity, water emulsifiable oil formulated to clean the spindles of cotton picking machinery. It is a highly refined paraffinic base oil containing an emulsifier package.



### APPLICATIONS

- Designed for use at between 0.1% and 1.0% volume with water (depending on flow rate) in all centralised spindle cleaning systems of modern mechanical cotton pickers. Cotton Picker Spindle Cleaner removes sap (which comes from the stalks and stems of plants) and dirt from the spindle blades and keeps them clean.

### DOSAGE RATES

Cotton Picker Spindle Cleaner can be used at a range of concentrations. For situations where small volumes of water are used (to increase lint yield), Cotton Picker Spindle Cleaner can be used at 1% vol. If larger volumes of water are used as little as 0.1% volume may be used to maintain spindle cleanliness.

## Spill Absorbents

Enretech is a range of products designed for the absorption and remediation of oil and fuel spills. They are manufactured from recycled cellulose waste from the cotton industry (cotton linters) and are 100% biodegradable, non-carcinogenic, non-toxic and non-volatile. These products totally encapsulate the spill and contain naturally occurring micro-organisms which biodegrade the absorbed hydrocarbons into their non-harmful constituent parts. Spent absorbents may be safely disposed of as compost or landfill.

 **ENRETECH-1**

**PRODUCT CODE:** 3008**PACK SIZE:** 10kg bag

Dual purpose oil/fuel absorbent and bioremediation agent for use on direct spills or on hydrocarbon contaminated soil. Contains naturally occurring bacteria commonly found in oil bearing plants and common soils. When given a hydrocarbon food source and kept moist, the bacteria propagate rapidly within the fibres and break down the soil contaminant into its non-harmful constituents. Applied by blending the dry absorbent carrying the micro-organisms with the contaminated soil as thoroughly as possible. Once the hydrocarbon comes in contact with Enretech-1, it will be absorbed and encapsulated by the fibrous active sites. Enretech-1 is dispersed by tilling and there is no requirement for washing, milling or surfactant addition. The Enretech-1 technology can be applied in both in-situ and ex-situ situations, but is most effective for use in emergency land-based hydrocarbon spills where conventional remediation treatments are not practical due to environmental sensitivities or remoteness.

 **ENRETECH XTRASORB**

**PRODUCT CODE:** 3114**PACK SIZE:** 10kg bag

*Enretech Xtrasorb will supersede Enretech Cellusorb in 2016.*

Enretech Xtrasorb is a 100% cellulose oil and fuel absorbent for use on water. It is biodegradable and is produced from recycled waste cellulose materials. Xtrasorb is highly oleophilic and will readily attach itself to hydrocarbons. It will absorb up to 18 times its own weight in oil based products – even when wet. Xtrasorb has been designed to be used on small-scale spills on harbours, docks, wharves, marinas, re-fuelling depots, beaches, bird sanctuaries, reefs or mangrove areas – wherever an oil spill could occur. Xtrasorb may be used on its own (loose) or in the form of socks, booms, bilge “rats” or pillows. Xtrasorb can be spread over a spill surface and unlike most absorbents, will absorb trace oils and eliminate sheen. Xtrasorb is particularly well suited as a filtration medium for removing hydrocarbons from storm water collection systems, sump pits and interceptor systems.

ENRETECH KLEEN SWEEP

**PRODUCT CODE:** 3113 (10kg), 3113 (5kg) **PACK SIZES:** 10kg bag, 5kg bag

Multi-purpose particulate absorbent that uses capillary absorbent technology, especially designed for the industrial, commercial and automotive markets. Kleen Sweep is manufactured in Australia from recycled natural biomass by-products and totally encapsulates and immobilises the spill so that the surface is left clean and dry. It is designed for use on all hard surfaces to absorb petrol, oil and diesel spills. It can also be used on animal, vegetable, mineral and synthetic oils, and oil-based paints. The product is simply spread around and over the spill, and swept back and forth until the surface is dry. The sorbent is then swept aside leaving no surface residue. No secondary detergent or solvent washes are necessary. Kleen Sweep can also be used to absorb water-based liquids such as body fluids (blood, urine and vomit), food products, paints, and water-soluble chemicals (i.e., glycols).

ENRETECH SPILL KIT

**PRODUCT CODE:** 3106

Spill kit containing absorbents, tools and personal protective equipment (PPE) for dealing with common petroleum spills. The Enretech part number for the whole spill kit is 100.

Component	Quantity	Enretech Part #
Enretech Kleen Sweep 5kg Bag	3	22
Containment Socks 1.2 m x 10 cm	2	40
Absorbent Pillows	2	35
Low Lint GP Wipes 35 x 57 cm	50	45
Cotton Sponge Pads 45 cm sq	47	47
Instruction card	1	CARD/HYD
Dustpan and Brush	1	1957
PVC Gloves Medium	2 pairs	GP27
Dust Goggles Medium	2	S-600
Ewaste Disposal Bags Large	2	65LD
Wheelie Bin (yellow)	1	MGB120Y
Bin Cover	1	—

# FUELS & STARCARD





# FUELS & STARCARD

<b>PETROL</b>	<b>155</b>
VORTEX PREMIUM 98	155
VORTEX PREMIUM 95	155
UNLEADED PETROL	156
OPAL UNLEADED PETROL	156
BIO E10 UNLEADED	156
<b>DIESEL</b>	<b>157</b>
VORTEX PREMIUM DIESEL	157
EXTRA LOW SULPHUR DIESEL	157
WINTER DIESEL BLENDS	158
POWER TEC <sup>D</sup>	159
ACTIVE TEC <sup>D</sup>	159
CLEAN TEC <sup>D</sup>	160
BIO B20 DIESEL	161
BIO B5 DIESEL	161
<b>OTHER</b>	<b>162</b>
CNG	162
LPG (AUTOGAS)	162
<b>STARCARD</b>	<b>163</b>

Petrol

VORTEX PREMIUM 98

Caltex Vortex Premium 98 has a minimum Research Octane Number (RON) of 98 and is formulated to meet the exacting requirements of the latest engines as well as performance vehicles, especially those with high-compression or turbo-charged engines.

Caltex Vortex Premium 98 is a high-performance, deposit control premium unleaded petrol designed to clean up dirty fuel systems and intake valves as you drive. Vortex Premium 98 helps your car perform at its best. It contains a technologically advanced additive package, formulated to remove and prevent build-up of performance robbing deposits from critical parts of your vehicle’s fuel system. By keeping fuel systems clean, Vortex Premium 98 helps engines operate efficiently.



APPLICATIONS

- Caltex Vortex Premium 98 is recommended for use in spark ignition engines designed to use unleaded petrol of 98 or lower RON.

Caltex Vortex Premium 98 complies with the relevant provisions of:

- Fuel Standard (Petrol) Determination 2001 as amended
- New South Wales Protection of the Environment Operations (Clean Air) Regulation 2010
- South Australia Environment Protection (Motor Vehicle Fuel Quality) Policy 2002
- Queensland Environmental Protection Regulation 2008
- Victoria Environment Protection (Vehicle Emissions) Regulations 2003
- Environmental Protection (Petrol) Regulations 1999 (WA)

VORTEX PREMIUM 95

Caltex Vortex Premium 95 is a high-performance premium unleaded petrol specially formulated to clean your car’s fuel system while you drive. It has a minimum Research Octane Number (RON) of 95 and meets the Fuel Quality Standards Act 2000.

Caltex Vortex Premium 95 contains a technologically advanced formulation to remove and prevent build-up of performance robbing deposits from critical parts of your vehicle’s fuel system. By keeping your fuel system clean, Vortex Premium 95 helps the engine operate efficiently. Combined with the high octane grade, this gives you more power, improved performance and helps increased fuel efficiency.



APPLICATIONS

- Caltex Vortex Premium 95 is recommended for use in spark ignition engines designed to use unleaded petrol of 95 or lower RON.

Caltex Vortex Premium 95 complies with the relevant provisions of:

- Fuel Standard (Petrol) Determination 2001 as amended
- New South Wales Protection of the Environment Operations (Clean Air) Regulation 2010
- South Australia Environment Protection (Motor Vehicle Fuel Quality) Policy 2002
- Queensland Environmental Protection Regulation 2008
- Victoria Environment Protection (Vehicle Emissions) Regulations 2003
- Environmental Protection (Petrol) Regulations 1999 (WA)



UNLEADED PETROL

Caltex Unleaded Petrol is designed for spark ignition engines and blended to meet the requirements of automotive engines fitted with catalytic converters designed to run on unleaded petrol. Caltex Unleaded Petrol has a minimum Research Octane Number (RON) of 91 and meets the Fuel Quality Standards Act 2000. It provides easy start, quick warm-up and full power under all climatic conditions.

- APPLICATIONS
- Caltex Unleaded Petrol is recommended for use in spark ignition engines designed to use unleaded petrol with a 91 RON.
  - Caltex Unleaded Petrol is also suited for 2- and 4-stroke applications associated with motorcycles, marine petrol engines, mowers, chain saws, etc., designed to run on unleaded petrol with a RON of up to 91.
- Caltex Unleaded Petrol complies with the relevant provisions of:
- Fuel Standard (Petrol) Determination 2001 as amended
  - New South Wales Protection of the Environment Operations (Clean Air) Regulation 2010
  - South Australia Environment Protection (Motor Vehicle Fuel Quality) Policy 2002
  - Queensland Environmental Protection Regulation 2008
  - Victoria Environment Protection (Vehicle Emissions) Regulations 2003
  - Environmental Protection (Petrol) Regulations 1999 (WA)

OPAL UNLEADED PETROL

Caltex Opal Petrol is a regular unleaded petrol designed for spark ignition engines. It is low in the aromatic hydrocarbons which are associated with narcotic effects from sniffing petrol. Caltex Opal Petrol has a minimum Research Octane Number (RON) of 91 and meets the Fuel Quality Standards Act 2000. It contains additives to keep the fuel injection systems of modern cars clean and to protect the fuel system components. Injector cleaners, lead replacement additives and Octane boosters can be used in Opal petrol.

- APPLICATIONS
- Caltex Opal Petrol is recommended for use in spark ignition engines designed to use unleaded petrol with a 91 RON. It complies with the relevant provisions of the Fuel Standard (Petrol) Determination 2001 as amended.
  - Caltex Opal Petrol is suited for 2- and 4-stroke applications associated with motorcycles, marine petrol engines, mowers, chainsaws, etc., designed to run on unleaded petrol with a RON of up to 91.
  - Caltex Opal Petrol has been tested for compatibility with Viton and Butanitrile materials used in fuel hoses and fuel pump diaphragms.
- Note: Caltex Opal Petrol is only available at select sites.

BIO E10 UNLEADED

Caltex Bio E10 Unleaded Petrol is a high quality unleaded petrol formulated with 10% ethanol. It meets the requirements of the Fuel Quality Standards Act 2000. Ethanol is a renewable non-fossil fuel which helps reduce greenhouse gas emissions and reliance on fossil fuels.



- APPLICATIONS
- Caltex Bio E10 Unleaded can be used in motor vehicle petrol applications where the vehicle requires petrol with a minimum 91 RON and where the vehicle is suitable for a 10% ethanol fuel.
  - Caltex Bio E10 Unleaded is not suitable for use in aircraft, marine craft or small engines such as lawnmowers and chainsaws. Check with the engine manufacturer for further details.
- Caltex Bio E10 Unleaded Petrol complies with the relevant provisions of:
- Fuel Standard (Petrol) Determination 2001 as amended
  - New South Wales Protection of the Environment Operations (Clean Air) Regulation 2010
  - South Australia Environment Protection (Motor Vehicle Fuel Quality) Policy 2002
  - Queensland Environmental Protection Regulation 2008
  - Victoria Environment Protection (Vehicle Emissions) Regulations 2003
  - Western Australian Environmental Protection (Diesel and Petrol) Regulations 1999

ENVIRONMENTAL HEALTH AND SAFETY DISCLAIMER

Caltex petrol products are highly flammable liquids, classified as Dangerous Goods Class 3 Packaging Group II for transportation purposes. Avoid contact with the skin and eyes. Avoid breathing vapours or mists. Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal.

# Diesel

## VORTEX PREMIUM DIESEL

Caltex Vortex Premium Diesel is a high-performance diesel fuel specifically designed to meet increasingly demanding conditions found in new diesel engines. It keeps pace with the growing demand for cleaner, better and more advanced diesel fuels to deliver optimal engine performance.

Caltex Vortex Premium Diesel contains an advanced technology additive system which maintains fuel injector cleanliness, and through regular use, protects fuel system components, to ensure engines operate at peak efficiency and performance.



### APPLICATIONS

Caltex Vortex Premium Diesel is suitable for all diesel-powered equipment including:

- High-speed diesel engines – passenger cars, SUVs, buses, trucks, utes, agricultural, military, power generation and heating equipment.
- Applications where load and speed varies widely.
- On-road and off-road applications.
- Industrial applications.

### Caltex Vortex Premium Diesel complies with the relevant provisions of:

- Fuel Quality Standards Act 2000
- Fuel Standard (Automotive Diesel) Determination 2001 (Cth) (as amended)
- Australian Standard AS3570 – 1998 Amendment No. 1
- Environmental Protection (Petrol) Regulations 1999 (WA)
- Environment Protection (Motor Vehicle Fuel Quality) Policy 2002 (SA)
- BS EN 590 (except for density and cetane number)
- ASTM D975 (Grade No. 2-D S15)
- NSW Coal Mine Health and Safety Act 2002, Clause 73(1) of the Coal Mine Health and Safety Regulation 2006 for Diesel fuel used in underground mine operations (Amended June 2009)

## EXTRA LOW SULPHUR DIESEL

Caltex Extra Low Sulphur Diesel (XLSD) has a sulphur content of less than 10 ppm, making it suitable for diesel engines designed to meet the latest European and American emission standards and those equipped with exhaust after-treatment devices. It has excellent lubricity properties and meets or exceeds the Fuel Injection Equipment Manufacturers' recommendation for diesel fuel lubricity.

Caltex Extra Low Sulfur Diesel meets all requirements of the Fuel Standard (Automotive Diesel) Determination 2001 (Cth) (as amended). The cloud point is controlled seasonally and geographically to ensure operability of engines and equipment across Australia.

### APPLICATIONS

Caltex Extra Low Sulphur Diesel is suitable for all diesel-fuelled engines in mobile, portable and stationary applications including:

- High-speed diesel engines – passenger cars, SUVs, buses, trucks, utes, agricultural, military, power generation and heating equipment.
- Applications where load and speed vary widely.
- On-road and off-road applications.
- Industrial applications.

### Caltex Extra Low Sulphur Diesel complies with the relevant provisions of:

- Fuel Quality Standards Act 2000
- Fuel Standard (Automotive Diesel) Determination 2001 (Cth) (as amended)
- Australian Standard AS3570 – 1998 Amendment No. 1
- Environmental Protection (Petrol) Regulations 1999 (WA)
- Environment Protection (Motor Vehicle Fuel Quality) Policy 2002 (SA)
- BS EN 590 (except for density and cetane number)
- ASTM D975 (Grade No. 2-D S15)
- NSW Coal Mine Health and Safety Act 2002, Clause 73(1) of the Coal Mine Health and Safety Regulation 2006 for Diesel fuel used in underground mine operations (Amended June 2009)

WINTER DIESEL BLENDS

Caltex Winter Diesel blends are special products formulated to inhibit the formation of wax crystals in diesel fuel during cold weather conditions.

Sometimes in certain locations the cloud point limit specified in the Australian Standard AS 3570-1998 (refer to table below) may not be enough to prevent formation of wax crystals in diesel. Caltex Winter Diesel blends, Highland Diesel and Alpine Diesel, are manufactured for use during the winter months in regions where temperature is expected to fall below levels listed in the Australian Standard.

Highland Diesel

Manufactured with a cloud point of approximately 2°C below the limit specified in AS 3570. Recommended for moderate to cool climates and areas that experience regular frosts in the winter months.

Alpine Diesel

Manufactured with a cloud point of approximately 4°C below the limit specified in AS 3570. Recommended for use in alpine regions.

MAXIMUM LIMITS FOR CLOUD POINT

REGION	CALENDAR MONTH											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AUC	15	10	5	2	1	1	1	4	7	11	14	15
AUN	15	15	12	9	8	8	8	10	14	15	15	15
NSW	9	5	2	0	-1	-1	-1	0	2	5	7	9
QC	15	12	7	4	2	2	2	4	7	12	15	15
QCN	15	15	11	7	6	6	6	8	11	15	15	15
QFNE	15	15	12	7	7	7	7	9	12	15	15	15
QS	11	7	3	0	-1	-1	-1	0	2	7	9	13
SAS	8	6	4	2	1	1	1	2	4	5	6	9
TAS	3	1	-1	-2	-3	-3	-3	-3	-1	0	2	3
VIC	9	6	3	1	0	0	0	1	2	4	6	8
WAC	15	15	9	6	5	5	5	7	11	15	15	15
WAS	10	6	4	3	2	2	2	2	3	5	8	10

APPLICATIONS

Caltex Winter Diesel blends are recommended for all diesel-fuelled engines in mobile, portable and stationary applications which operate in cold weather conditions.

POWER TEC<sup>D</sup>

Caltex Power Tec<sup>D</sup> is a high-performance diesel fuel specifically designed to meet increasing demands for cleaner, better and more advanced fuels to deliver optimum performance in modern heavy-duty diesel engines.

Caltex Power Tec<sup>D</sup> has a cleanliness of ISO 16/14/11 and its regular use can help increase the lifespan of injectors and fuel pumps, decrease the frequency of changing on-board fuel filters and offer a more efficient and cleaner engine. All these benefits combined can also help to reduce costs and downtime.

The advanced formulation of Caltex Power Tec<sup>D</sup> cleans up and keeps clean critical parts of the engine from performance robbing deposits. This can help restore engine power and improve fuel efficiency.



APPLICATIONS

Caltex Power Tec<sup>D</sup> is suitable for all heavy-duty diesel-fuelled engines applications including:

- High-speed diesel engines – buses, trucks, mining and power generation.
- Applications where load and speed vary widely.
- On-road and off-road applications.
- Industrial applications.

Caltex Power Tec<sup>D</sup> complies with the relevant provisions of:

- Fuel Quality Standards Act 2000
- Fuel Standard (Automotive Diesel) Determination 2001 (Cth) (as amended)
- Australian Standard AS3570 – 1998 Amendment No. 1
- Environmental Protection (Petrol) Regulations 1999 (WA)
- Environment Protection (Motor Vehicle Fuel Quality) Policy 2002 (SA)
- BS EN 590 (except for density and cetane number)
- ASTM D975 (Grade No. 2-D S15)
- NSW Coal Mine Health and Safety Act 2002, Clause 73(1) of the Coal Mine Health and Safety Regulation 2006 for Diesel fuel used in underground mine operations (Amended June 2009)

ACTIVE TEC<sup>D</sup>

Caltex Active Tec<sup>D</sup> is a high-performance diesel fuel specifically designed to meet increasing demands for better and more advanced fuels to deliver optimum performance in modern heavy-duty diesel engines.

The advanced formulation of Caltex Active Tec<sup>D</sup> cleans up and keeps clean critical parts of the engine from performance robbing deposits. This can help restore engine power and improve fuel efficiency.



APPLICATIONS

Caltex Active Tec<sup>D</sup> is recommended for all heavy-duty diesel-powered equipment including:

- High-speed modern diesel engines – buses, trucks, mining, and power generation.
- Applications where load and speed vary widely.
- On-road and off-road applications.
- Industrial applications.

Caltex Active Tec<sup>D</sup> complies with the relevant provisions of:

- Fuel Quality Standards Act 2000
- Fuel Standard (Automotive Diesel) Determination 2001 (Cth) (as amended)
- Australian Standard AS3570 – 1998 Amendment No. 1
- Environmental Protection (Petrol) Regulations 1999 (WA)
- Environment Protection (Motor Vehicle Fuel Quality) Policy 2002 (SA)
- BS EN 590 (except for density and cetane number)
- ASTM D975 (Grade No. 2-D S15)
- NSW Coal Mine Health and Safety Act 2002, Clause 73(1) of the Coal Mine Health and Safety Regulation 2006 for Diesel fuel used in underground mine operations (Amended June 2009)

CLEAN TEC D

Caltex Clean Tec D is a high-performance diesel fuel specifically designed to meet increasing demands for cleaner, better and more advanced fuels to deliver optimum performance in modern diesel engines.
Caltex Clean Tec D has a cleanliness of ISO 16/14/11 and its regular use can help increase the lifespan of injectors and fuel pumps, decrease the frequency of changing on-board fuel filters and offer a more efficient and cleaner engine. All these benefits combined can also help to reduce costs and downtime.



APPLICATIONS

Caltex Clean Tec D is suitable for all diesel-fuelled engines applications including:
• High-speed modern diesel engines – buses, trucks, mining, and power generation.
• Applications where load and speed vary widely.
• On-road and off-road applications.
• Industrial applications.

- Caltex Clean Tec D complies with the relevant provisions of:
- Fuel Quality Standards Act 2000
  - Fuel Standard (Automotive Diesel) Determination 2001 (Cth) (as amended)
  - Australian Standard AS3570 – 1998 Amendment No. 1
  - Environmental Protection (Petrol) Regulations 1999 (WA)
  - Environment Protection (Motor Vehicle Fuel Quality) Policy 2002 (SA)
  - BS EN 590 (except for density and cetane number)
  - ASTM D975 (Grade No. 2-D S15)
  - NSW Coal Mine Health and Safety Act 2002, Clause 73(1) of the Coal Mine Health and Safety Regulation 2006 for Diesel fuel used in underground mine operations (Amended June 2009).

## BIO B20 DIESEL

Caltex Bio B20 Diesel is a low sulphur distillate fuel containing up to 20% volume Biodiesel (Fatty Acid Methyl Ester – FAME). Biodiesel is a renewable non-fossil fuel, so the use of B20 assists users in reducing their CO<sub>2</sub> footprint as well as other emissions such as carbon monoxide and particulate matter. Caltex Bio B20 Diesel can help reduce greenhouse gas emissions and assist in providing long-term solutions to climate change.



### APPLICATIONS

Caltex Bio B20 Diesel is suitable for use in modern engines fitted with exhaust after-treatment devices.

Although there is an increased number of heavy-duty engine manufacturers who support the use of biodiesel blends, users should consult equipment manufacturers to ensure Caltex Bio B20 Diesel meets their requirements.

Caltex Bio B20 Diesel is not suitable for passenger cars or marine applications.

## BIO B5 DIESEL

Caltex Bio B5 Diesel is a low sulphur distillate fuel containing up to 5% volume Biodiesel (Fatty Acid Methyl Ester – FAME) with a sulphur content less than 10 ppm. Biodiesel is a renewable non-fossil fuel, so the use of B5 assists users in reducing their CO<sub>2</sub> footprint as well as other emissions such as carbon monoxide and particulate matter. Caltex Bio B5 Diesel can help reduce greenhouse gas emissions and assist in providing long-term solutions to climate change.



### APPLICATIONS

Caltex Bio B5 Diesel is suitable for all diesel-fuelled engines in mobile, portable and stationary applications including:

- High-speed diesel engines – passenger cars, SUVs, buses, trucks, utes, agricultural, military, power generation and heating equipment.
- On-road and off-road applications.
- Industrial applications.
- Applications where load and speed varies widely.

### ENVIRONMENTAL HEALTH AND SAFETY DISCLAIMER

Avoid contact with the skin and eyes. Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal.

Other

CNG

Caltex CNG (compressed natural gas) is a high quality, gaseous fuel for use in engines specifically designed to operate with CNG.

Compared to regular diesel, CNG is a clean burning fuel as it can reduce well-to-wheel emissions of greenhouse gases by up to 25%.

Caltex CNG consists of natural gas (primarily methane) that has been compressed to less than 1% of its volume at standard atmospheric pressure. It is supplied as a compressed gas for delivery directly into CNG vehicles.

APPLICATIONS

- Caltex CNG is suitable for vehicles specifically designed to operate on CNG. Such vehicles range from those with small-duty engines up to some heavy-duty engine applications, such as buses and trucks.

Caltex CNG complies with the relevant provisions of:

- AS 4564-2011 Specification for general purpose natural gas

ENVIRONMENTAL HEALTH AND SAFETY DISCLAIMER

Caltex CNG is classified as a Dangerous Good by the criteria of the “Australian Code for the Transport of Dangerous Goods by Road & Rail”. It is a Class 2.1 Flammable Gas. Users should consult the SDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal.

LPG (AUTOGAS)

Caltex LPG (Autogas) is a premium quality, clean burning, liquefied petroleum gas. It is a high octane fuel suitable for all currently available automotive LPG engines or dual fuel LPG/Petrol engines. It has a gross calorific value of 47.7MJ/kg and a calculated Research Octane Number (RON) of approximately 100.

Caltex LPG (Autogas) is composed mainly of propane and butane, with minor amounts of propylene and butylene and is the cleanest, most inexpensive car fuel on the market. It meets the Fuel Standard (Autogas) Determination 2003.

APPLICATIONS

- Caltex LPG (Autogas) has been designed specifically for use in automotive engines.

Caltex LPG (Autogas) complies with the relevant provisions of:

- Fuel Standard (Autogas) Determination 2003
- ALPGA/AIP Specification

ENVIRONMENTAL HEALTH AND SAFETY DISCLAIMER

Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal.

OTHER INFORMATION

For further information on Caltex products and services call the Lubelink Advisory Service on 1300 364 169 between 8.00am and 6.00pm (EST) Monday to Friday.

Information in this publication is accurate at the time of printing and reasonable care has been taken to ensure it is complete and accurate. However, this information is subject to change (such as when formulations or usage and storage information changes). Independent advice should be sought before taking any action in reliance on the information in this publication.



# CUT THROUGH FUEL COSTS WITH CALTEX STARCARD.

StarCard is a convenient, cashless solution for fuel management and can help you save time and admin with detailed reporting using our online account management system.

**Apply today by visiting [www.starcard.com.au](http://www.starcard.com.au)**

Have a question?

Call 1300 365 096 or email [starcard@caltex.com.au](mailto:starcard@caltex.com.au)



# REFERENCE



# REFERENCE

<b>API ENGINE SERVICE CLASSIFICATION</b>	<b>167</b>
C 'COMMERCIAL' CLASSIFICATION (FOR HEAVY-DUTY DIESEL ENGINES)	167
S 'SERVICE' CLASSIFICATION (PRIMARILY FOR PETROL ENGINES)	167
<b>ILSAC ENGINE SERVICE CLASSIFICATION</b>	<b>168</b>
<b>ACEA ENGINE SERVICE CLASSIFICATION</b>	<b>168</b>
A/B: PETROL AND DIESEL ENGINE OILS	168
C: CATALYST COMPATIBILITY OILS	168
E: HEAVY-DUTY DIESEL ENGINE OILS	169
<b>JASO CLASSIFICATIONS</b>	<b>169</b>
TWO-CYCLE PETROL ENGINE OIL PERFORMANCE CLASSIFICATION	169
FOUR-STROKE MOTORCYCLE PETROL ENGINE OIL CLASSIFICATION	169
AUTOMOTIVE DIESEL ENGINE OIL CLASSIFICATION	170
<b>COMPARATIVE VISCOSITY CLASSIFICATIONS</b>	<b>171</b>
<b>SAE VISCOSITY CLASSIFICATION</b>	<b>172</b>
ENGINE OIL (SAE J300)	172
AXLE & MANUAL TRANSMISSION LUBRICANT (SAE J306)	172
<b>API GEAR LUBRICANT CLASSIFICATION</b>	<b>173</b>
AXLE & MANUAL TRANSMISSION LUBRICANTS (SAE J308)	173
NATIONAL LUBRICATING GREASE INSTITUTE GREASE CLASSIFICATION	173
<b>GREASE COMPATIBILITY CHART</b>	<b>174</b>
<b>TYPICAL CHARACTERISTICS</b>	
– CLEANERS	175
– COOLANTS	175
– ENGINE OILS	176
– FUELS	177
– GREASES	178
– INDUSTRIAL LUBRICANTS	180
– TRANSMISSION FLUIDS	183
<b>QUICK GUIDE TO HAVOLINE® ENGINE OILS</b>	<b>184</b>
<b>QUICK GUIDE TO DELO® ENGINE OILS</b>	<b>185</b>



## API ENGINE SERVICE CLASSIFICATION

### C 'COMMERCIAL' CLASSIFICATION (FOR HEAVY-DUTY DIESEL ENGINES)

DESCRIPTION	RELATED SPECIFICATIONS & TESTS	
CJ-4	Introduced in 2006 for high-speed 4-stroke cycle diesel engines designed to meet U.S. 2007 model year on-highway exhaust emission standards as well as for previous model years. These oils are especially effective at sustaining emission control system durability where particulate filters and other advanced after-treatment systems are used.	Cummins CES 20081, Mack EO-O Premium Plus 07
CI-4 PLUS	Introduced in 2004 for the latest generation of North American 4-stroke heavy-duty diesel engines. May be used in place of CD, CE, CF-4, CG-4, CH-4 and CI-4 oils.	Cummins CES 20078, Mack EO-N Premium Plus 03
CI-4	Introduced in 2002 for 4-stroke heavy-duty diesel engines meeting 2004 exhaust standards implemented in 2002 and to provide improvements in engine durability where Exhaust Gas Recirculation (EGR) is used. May be used in place of CD, CE, CF-4, CG-4 and CH-4 oils.	Cummins CES 20078, Mack EO-N Premium Plus
CH-4	For 4-stroke diesel engines designed to meet 1998 emission standards. May be used in place of CD, CE, CF-4 and CG-4 oils.	Cummins M11, Mack EO-M, EO-M Plus, Caterpillar IP
CG-4*	Introduced in 1994 for 4-stroke heavy-duty diesel engines meeting 1994 U.S. exhaust emission standards. Can be used in engines requiring CD, CE and CF-4 oils.	Caterpillar 1N, Mack EO-L
CF-4*	For 4-stroke heavy-duty diesel engines manufactured since 1990. CF-4 oils may be used in place of CE, CD or CC oils. CF-4 oils provide improved control of oil consumption and piston deposits.	Caterpillar 1K
CF-2*	Introduced in 1994 for 2-stroke diesel engines requiring improved control of cylinder and ring-face scuffing and deposits. May also be used in place of CD-II oils. CF-2 oils do not necessarily meet the requirements of CF or CF-4 unless passing test requirements for these categories.	Caterpillar 1M-PC, Detroit Diesel 6V-92TA
CF*	Introduced in 1994 for indirect injected diesel engines. CF oils can be used when CD is recommended.	Caterpillar 1M-PC
CE*	For 4-stroke heavy-duty diesel engines manufactured since 1983.	MIL-L-2104D/E, MIL-L-45199, Mack: EO-K/2, Cummins: NTC 400
CD-II*	For severe duty 2-troke diesel engines. CD-II oils meet all the performance requirements of CD.	MIL-L-2104D, Detroit Diesel: 6V-53T
CD*	For severe naturally aspirated, turbocharged or supercharged diesel engines. Introduced in 1955.	MIL-L-2104C/D, MIL-L-45199
CC*	For moderate duty diesel and heavy-duty petrol engines. Introduced in 1961.	MIL-L-2104B
CB*		MIL-L-2104A Supp. 1
CA*		MIL-L-2104A

\* Obsolete category.

### S 'SERVICE' CLASSIFICATION (PRIMARILY FOR PETROL ENGINES)

DESCRIPTION		RELATED SPECIFICATIONS & TESTS
SN	Introduced in 2010 along with the Resource Conserving classification and ILSAC GF-5.	ILSAC GF-5
SM	Introduced in 2004 to provide improvements in oxidation resistance, deposit control, anti-wear and low temperature performance.	ILSAC GF-4
SL	Introduced in 2001 to provide improvements in high-temperature deposit control and oil consumption.	ILSAC GF-3
SJ	Introduced in 1997 (First available 15 October 1996) to provide improvements in oil volatility, filterability, gelation, deposits and catalyst compatibility.	ILSAC GF-2, MIL-L-46152E
SH	Introduced in 1994 to provide improvements in deposit control, oil oxidation, wear, rust and corrosion.	ILSAC GF-1
SG*	Introduced in 1989 to provide improvements in engine deposits, oil oxidation, and engine wear. Also provides protection against rust and corrosion.	Ford: ESE-M2C-153E, GM: 6048M, MIL-L-46152D
SF*	Introduced in 1980 to provide improvements in oxidation stability and anti-wear performance. Also provides protection against engine deposits, rust and corrosion.	Ford: ESE-M2C-153B/C/D, GM 6048M, Chrysler MS 6395, MIL-L-46152B/C
SE*	Introduced in 1972 to provide improvements in oil oxidation, high-temperature engine deposits, rust and corrosion.	Ford: ESE-M2C-101C, GM 6136M, MIL-L-46152A
SD*	Introduced in 1968.	-
SC*	Introduced in 1964.	-
SB*	For minimum duty petrol engines.	Inhibited oil (non-detergent).
SA*	For utility petrol and diesel engines.	Straight mineral oil.

\* Obsolete category.

ILSAC ENGINE SERVICE CLASSIFICATION

DESCRIPTION	
GF-5	Introduced in 2010 to provide improvements in turbocharger protection, piston cleanliness, compatibility with ethanol blend fuels, fuel economy durability and emission control system durability.
GF-4	Effectively API SM plus the Sequence VI B fuel economy test with tighter limits. Also tightened limits on phosphorus and introduced limits on sulfur. Released in 2004.
GF-3	Effectively API SL plus the Sequence VI B fuel economy test. Released in 2000.
GF-2	Effectively API SJ plus the Sequence VI A fuel economy test. Released in 1996.
GF-1	Effectively API SH plus the Sequence VI fuel economy test. Released 1990 and revised 1992.

ACEA ENGINE SERVICE CLASSIFICATION

A/B: PETROL AND DIESEL ENGINE OILS

DESCRIPTION	
A1/B1	Stable, stay-in-grade oil intended for use at extended drain intervals in gasoline engines, and car and light van diesel engines specifically designed to be capable of using low friction low viscosity oils with a high-temperature/high-shear rate viscosity of 2.6 mPa.s for xW/20 and 2.9 to 3.5 mPa.s for all other viscosity grades. These oils are unsuitable for use in some engines. Consult owner manual or handbook if in doubt.
A3/B3	Stable, stay-in-grade oil intended for use in high-performance petrol, and car and light van diesel engines and/or for extended drain intervals where specified by the engine manufacturer, and/or for year-round use of low viscosity oils, and/or for severe operating conditions as defined by the engine manufacturer.
A3/B4	Stable, stay-in-grade oil intended for use in high-performance petrol and direct injection diesel engines, but also suitable for applications described under A3/B3.
A5/B5	Stable, stay-in-grade oil intended for use at extended drain intervals in high-performance petrol, and car and light van diesel engines designed to be capable of using low friction low viscosity oils with a high-temperature/high-shear rate viscosity of 2.9 to 3.5 mPa.s. These oils may be unsuitable for use in some engines. Consult owner manual or handbook if in doubt.

C: CATALYST COMPATIBILITY OILS

DESCRIPTION	
C1	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high-performance car and light van diesel and petrol engines requiring low friction, low viscosity, low SAPS oils with a minimum HTHS viscosity of 2.9 mPa.s. These oils will increase the DPF and TWC life and maintain the vehicle's fuel economy. Warning: these oils have the lowest SAPS limits and may be unsuitable for use in some engines. Consult owner manual or handbook if in doubt.
C2	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high-performance car and light van diesel and petrol engines designed to be capable of using low friction, low viscosity oils with a minimum HTHS viscosity of 2.9 mPa.s. These oils will increase the DPF and TWC life and maintain the vehicle's fuel economy. Warning: these oils may be unsuitable for use in some engines. Consult owner manual or handbook if in doubt.
C3	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high-performance car and light van diesel and petrol engines, with a minimum HTHS viscosity of 3.5 mPa.s. These oils will increase the DPF and TWC life. Warning: these oils may be unsuitable for use in some engines. Consult owner manual or handbook if in doubt.
C4	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high-performance car and light van diesel and petrol engines requiring low SAPS oil with a minimum HTHS viscosity of 3.5 mPa.s. These oils will increase the DPF and TWC life. Warning: these oils may be unsuitable for use in some engines. Consult owner manual or handbook if in doubt.

SAPS: Sulfated Ash, Phosphorus, Sulfur.  
DPF: Diesel Particulate Filter.  
TWC: Three-Way Catalyst.  
HTHS: High-Temperature/High-Shear Rate Viscosity.

ACEA ENGINE SERVICE CLASSIFICATION Cont.

E: HEAVY-DUTY DIESEL ENGINE OILS

DESCRIPTION	
E4	Stable, stay-in-grade oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines without particulate filters, and for some EGR engines and some engines fitted with SCR NOx reduction systems. However, recommendations may differ between engine manufacturers so driver manuals and/or dealers should be consulted if in doubt.
E6	Stable, stay-in-grade oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV, Euro V and Euro VI emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer's recommendations. It is suitable for EGR engines, with or without particulate filters, and for engines fitted with SCR NOx reduction systems. E6 quality is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulfur diesel fuel (max 50 ppm). However, recommendations may differ between engine manufacturers so driver manuals and/or dealers should be consulted if in doubt.
E7	Stable, stay-in-grade oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear and turbocharger deposit control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under severe conditions, e.g. extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines without particulate filters, and for most EGR engines and most engines fitted with SCR NOx reduction systems. However, recommendations may differ between engine manufacturers so driver manuals and/or dealers should be consulted if in doubt.
E9	Stable, stay-in-grade oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV, Euro V and Euro VI emission requirements and running under severe conditions, e.g. extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines with or without particulate filters, and for most EGR engines and for most engines fitted with SCR NOx reduction systems. E9 is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulfur diesel fuel. However, recommendations may differ between engine manufacturers so driver manuals and/or dealers should be consulted if in doubt.

EGR: Exhaust Gas Recirculation.

SCR: Selective Catalytic Reduction.

NOx: Nitrogen Oxide.

More information is available at [http://www.acea.be/images/uploads/files/2012\\_ACEA\\_Oil\\_Sequences.pdf](http://www.acea.be/images/uploads/files/2012_ACEA_Oil_Sequences.pdf)

JASO CLASSIFICATIONS

TWO-CYCLE PETROL ENGINE OIL PERFORMANCE CLASSIFICATION

The performance level of two-cycle oils is classified into three grades FB, FC and FD according to test results in four engine tests (a lubricity test, a detergency test, a smoke test and an exhaust system blocking test); and three properties (kinematic viscosity at 100°C, flash point and sulfated ash).

FA was an earlier classification that is now obsolete.

FB is the base grade.

FC is superior to FB in exhaust smoke and exhaust system blocking.

FD is superior to FC in high-temperature detergency.

FOUR-STROKE MOTORCYCLE PETROL ENGINE OIL CLASSIFICATION

Oils are classified into four grades (MA, MA1, MA2, MB) according to their performance in a clutch friction test. Additionally, oils must meet one of the following performance categories: API SG, SH, SJ, SL, SM, SN, or ILSAC GF-1, GF-2, GF-3, ACEA A1/B1, A3/B3, A3/B4, A5/B5, C2, C3, C4 and must meet certain limits on sulfated ash, phosphorus content, evaporative loss, foaming, shear stability and high-temperature/high-shear viscosity.



JASO CLASSIFICATIONS Cont.

AUTOMOTIVE DIESEL ENGINE OIL CLASSIFICATION

The JASO DH-1, DH-2 and DL-1 categories are defined in the Automotive Diesel Engine Oil Standard “JASO M 355: 2008”.

The JASO DH-1 category was developed for 4-stroke automotive diesel engines subject to the Japanese long-term exhaust emission regulations. The DH-1 classification stipulates wear prevention, corrosion prevention, high-temperature oxidation stability, and soot control, etc. DH-1 oils are targeted at the suppression of deterioration of piston detergency, formation of deposits at high-temperature, foaming, oil consumption due to evaporative loss, viscosity decrease by shear, deterioration of oil seals, etc. Such oils may also be used in engines which predate the Japanese long-term exhaust emission regulations. When the appropriate engine manufacturers’ recommendations on drain interval are followed, DH-1 oils may be used with fuel in excess of 500 ppm sulfur.

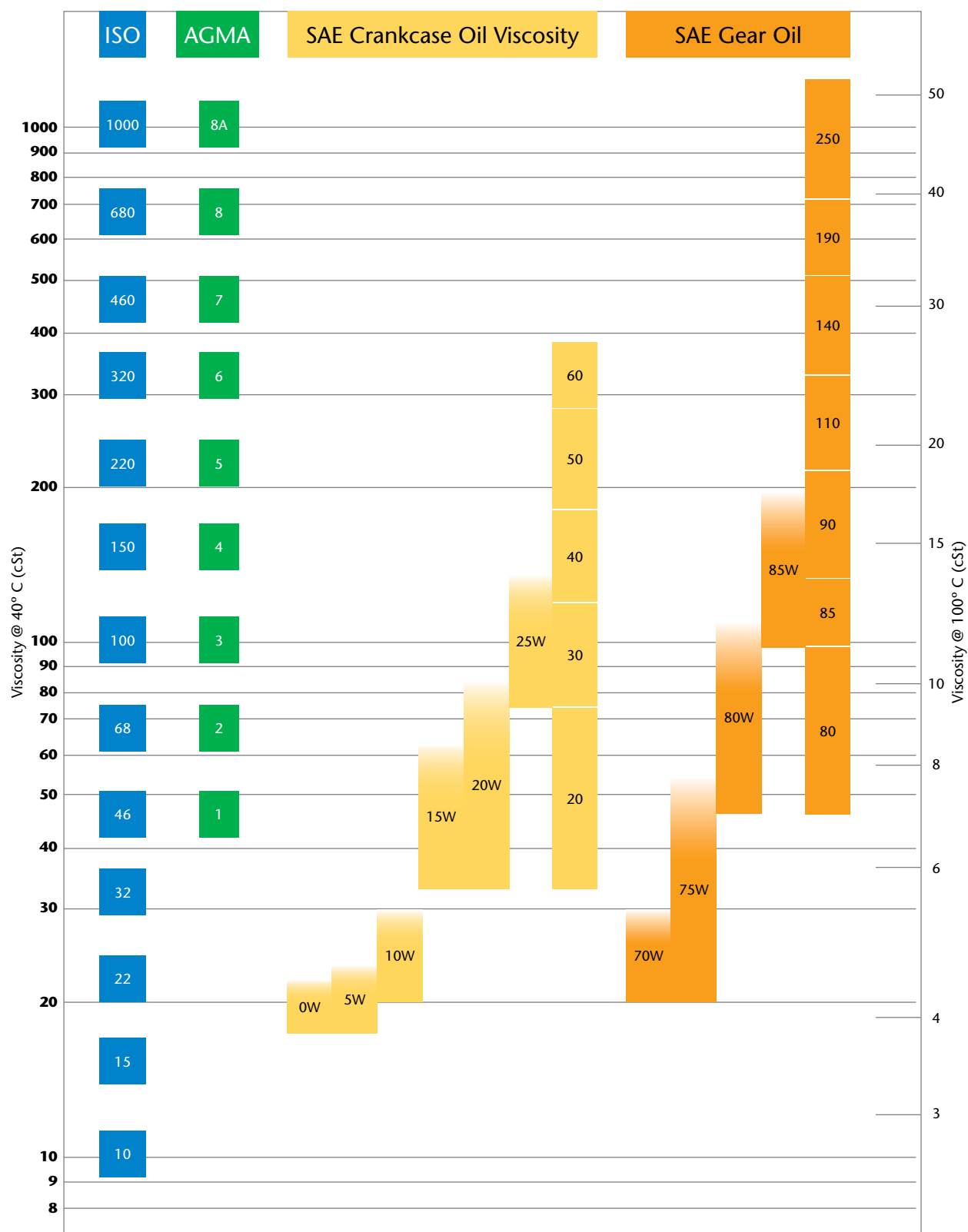
The JASO DH-2 and JASO DL-1 classifications were developed for 4-stroke automotive diesel engines equipped with after-treatment devices such as diesel particulate filters (DPFs) and catalysts in compliance with exhaust emission regulations subsequent to the Japanese new short-term regulations. DH-2 and DL-1 oils are eminently suitable for DPF and catalyst equipped vehicles and provide the same performance level as the DH-1 classification.

Because the requirements of trucks and buses differ from those of passenger cars in engine durability, service interval, fuel economy, etc., the DH-2 classification was designed for heavy-duty use by trucks and buses while the DL-1 classification was designed for light-duty use by passenger cars.

DH-2 and DL-1 oils are recommended only where fuel sulfur is <50 ppm. Where such fuel is used and engine manufacturer oil change intervals are followed, DH-2 oils may also be used in engines predating the Japanese new short-term exhaust emission regulations.

More information is available at [http://www.jalos.or.jp/onfile/jaso\\_e.htm](http://www.jalos.or.jp/onfile/jaso_e.htm)

COMPARATIVE VISCOSITY CLASSIFICATIONS



Winter grade (W) viscosities are also defined at low temperatures as well as minimum viscosities at 100°C (shown here). For a complete definition see the SAE J300 and J306 tables.

SAE VISCOSITY CLASSIFICATION

ENGINE OIL (SAE J300)

SAE Viscosity Grade	Low Temperature (°C) Cranking Viscosity <sup>2</sup> , mPa.s Max	Low Temperature (°C) Pumping Viscosity <sup>3</sup> , mPa.s Max with Yield Stress	Kinematic Viscosity <sup>4</sup> (mm <sup>2</sup> /s) at 100°C Min	Kinematic Viscosity <sup>4</sup> (mm <sup>2</sup> /s) at 100°C Max	High-Shear Viscosity <sup>5</sup> mPa.s at 150°C and 10 <sup>6</sup> s <sup>-1</sup> 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 (0W-40, 5W-40, 10W-40)
40	-	-	12.5	< 16.3	3.7 (15W-40, 20W-40, 25W-40, 40)
50	-	-	16.3	< 21.9	3.7
60	-	-	21.9	< 26.1	3.7

1 All values are critical specifications as defined by ASTM D3244.  
2 ASTM D5293.  
3 ASTM D4684. Note that the presence of any yield stress detectable by this method constitutes a failure regardless of viscosity.  
4 ASTM D445.  
5 ASTM D4683, CECL-36-A-90, ASTMD 4741 and D5481.

AXLE & MANUAL TRANSMISSION LUBRICANT (SAE J306)

SAE Viscosity Grade	Maximum Temperature for Viscosity of 150,000 cP, °C	Viscosity (cSt) @ 100°C		Approx. Equivalent ISO Grade
		Min*	Max	
70W	-55	4.1	NR	22 – 32
75W	-40	4.1	NR	22 – 46
80W	-26	7.0	NR	46 – 100
85W	-12	11.0	NR	100 – 150
80	NR	7.0	< 11.0	46 – 100
85	NR	11.0	< 13.5	100
90	NR	13.5	< 18.5	150 – 220
110	NR	18.5	< 24.0	220 – 320
140	NR	24.0	< 32.5	320 – 460
190	NR	32.5	< 41.0	680
250	NR	41.0	NR	1000

NR: No Requirement.  
\* Limit must be met after testing in CEC L-45-T-93 (20 hours).

API GEAR LUBRICANT CLASSIFICATION

AXLE & MANUAL TRANSMISSION LUBRICANTS (SAE J308)

Classification	Type	Typical Application
GL-1*	Straight mineral oil.	Some automotive manual transmissions under mild service.
GL-2*	Usually contains fatty material.	Worm drives and some industrial gearboxes.
GL-3*	Contains mild EP additives.	Manual transmissions and spiral bevel final drives under moderate service conditions.
GL-4*	Contains EP additives. Equivalent to MIL-L-2105.	Manual transmissions and transaxles, spiral bevel and hypoid gears in normal service without shock loading.
GL-5	Contains higher concentration of EP additives. Equivalent to MIL-L-2105 B/C/D.	Hypoid and all other types of gears in severest service including shock loading. Primary field service recommendation for most passenger cars and trucks. Also may be used in manual transmissions.
GL-6*	Obsolete.	Hypoid gears with very high pinion offset.
MT-1	Protection against the combination of thermal degradation, component wear and oil seal deterioration. May or may not contain EP additives.	Non-synchronised manual transmissions used in buses and heavy-duty trucks.

EP: Extreme Pressure.  
\* Obsolete.

NATIONAL LUBRICATING GREASE INSTITUTE GREASE CLASSIFICATION

Grade Number	Worked Penetration @ 25°C
000	445 to 475
00	400 to 430
0	355 to 385
1	310 to 340
2	265 to 295
3	220 to 250
4	175 to 205
5	130 to 160
6	85 to 115

GREASE COMPATIBILITY CHART

	Aluminium Complex	Barium Complex	Calcium	Calcium Sulfonate Complex	Clay (Bentonite)	Lithium	Lithium Complex	Polyurea	Sodium
Aluminium Complex	Y	N	N	N	N	N	N	N	N
Barium Complex	N	Y	N	N	N	N	N	N	N
Calcium	N	N	Y	M	N	Y	M	M	N
Calcium Sulfonate Complex	N	N	M	Y	N	M	M	M	N
Clay (Bentonite)	N	N	N	N	Y	N	N	N	N
Lithium	N	N	Y	M	N	Y	Y	M	N
Lithium Complex	N	N	M	M	N	Y	Y	M	N
Polyurea	N	N	M	M	N	M	M	X	N
Sodium	N	N	N	N	N	N	N	N	Y

M = May be compatible or borderline compatible; N = Not compatible; Y = Compatible; X = Not all polyurea greases are compatible

NB: The compatibility of greases should be checked before mixing.  
Additives may give rise to incompatibility between greases that are normally compatible.  
As a general rule the mixing of different grease types is NOT recommended.

## TYPICAL CHARACTERISTICS – CLEANERS

Product	Colour	Code	Density @ 15°C kg/L	PMCC Flash Point °C	pH
Hand Clean	Pale yellow	3172	0.86	-	7.5 to 8.5
Kwik Degreaser Aerosol	Slightly coloured	1439	0.76 to 0.79	-60 (gas)	-
Tough Clean	Dark pink	3174	~1.02	-	10
Safe-D-Greaserr	Colourless	1618	0.83	> 61	-
Safe-D-Greaser QB	Red	2620	0.83	> 61	-
Truck Clean	Pale Blue	3173	~1.05	-	8.5

## TYPICAL CHARACTERISTICS – COOLANTS

Product	Code	Density @ 15°C kg/L	Inhibitor type	Glycol type	Silicate	Nitrite	Colour	Recommended Treat Rate
Anti-Freeze Anti-Boil Coolant	1268	1.12	Hybrid	Ethylene	Yes	-	Green	50%
Anti-Freeze Anti-Boil Coolant Premixed	3104	1.04	Hybrid	Ethylene	Yes	-	Green	100%
Delo® ELC Anti-Freeze/Coolant – Premixed 50/50	2981	1.07	OAT	Ethylene	-	Yes	Red	100%
Delo® XLC Anti-Freeze/Coolant – Concentrate	3354	1.11	OAT	Ethylene	-	-	Orange	50%
Delo® ELI Premixed	3280	1.00	OAT	-	-	Yes	Red	100%
Delo® Extended Life Coolant Premixed 50/50	2981	1.07	OAT	Ethylene	-	Yes	Red	100%
Delo® XLI Corrosion Inhibitor Premixed	3093	1.00	OAT	-	-	-	Red	100%
Extended Life Coolant	1308	1.11	OAT	Ethylene	-	-	Orange	50%
Extended Life Coolant Premixed 50/50	3092	1.07	OAT	Ethylene	-	-	Orange	100%
Havoline® Xtended Life Anti-Freeze/Coolant – Concentrate	3355	1.11	OAT	Ethylene	-	-	Orange	50%
Havoline® Xtended Life Inhibitor – Concentrate	1602	1.06	OAT	-	-	-	Red	7.5%
PG Long Drain Coolant Premixed	3221	1.05	Hybrid	Propylene	Yes	Yes	Blue	100%
Radiator Protector	2043	1.02	Conventional	-	-	-	Green	100%
XL Corrosion Inhibitor Concentrate	1602	1.06	OAT	-	-	-	Red	7.5%

OAT: Organic Additive (Carboxylate) Technology.

TYPICAL CHARACTERISTICS – ENGINE OILS

Product	SAE Grade	Code	API	ACEA	Density @ 15°C kg/L	Pour Point °C	Flash Point °C *	Viscosity cSt @		VI	BN mgKOH/g D2896	Sulfated Ash %m
Delo® 1000 Marine 30	30	1294	-	-	0.893	-21	≥ 220	96	11.0	99	12	1.6
Delo® 1000 Marine 40	40	1295	-	-	0.898	-18	≥ 220	137	14.0	99	12	1.6
Delo® 400 LE	15W-40	3006	CJ-4	E9	0.886	-30	204	132	15.7	125	9.3	1.0
Delo® 400 Multigrade	15W-40	2696	CI-4+	E7	0.886	< -30	> 215	125	15.1	125	12.2	1.4
Delo® 400 NG	15W-40	3281	-	-	0.876	-27	230	126	15.8	132	6.1	0.85
Delo® 400 XLE Synblend	10W-30	3249	CJ-4/SM	E9	0.87	-43	223	76	11.6	146	9.7	1.0
Delo® 400 XLE Synthetic	5W-30	3276	CJ-4/SN	E9, E7, E6	0.85	-51	226	69	11.7	165	9.8	1.0
Delo® 6130 CFO SAE 40	40	2982	-	-	0.897	-15	≥ 220	144	14.7	101	13	1.5
Delo® 6130 CFO SAE 20W-40	20W-40	2852	-	-	0.893	-15	≥ 220	132	15.0	116	13	1.5
Delo® 710 LE SAE 20W-40	20W-40	3099	-	-	0.894	-24	230	136	15.5	117	9.2	1.0
Delo® Gold Ultra	15W-40	3159	CI-4	E7-04	0.89	< -24	≥ 215	115	15.1	137	10.2	1.4
Delo® Silver SAE 30	30	2897	CF	-	0.893	-21	225	102	11.5	98	6.1	0.8
Delo® Silver SAE 40	40	2898	CF	-	0.897	-18	230	142	14.4	97	6.1	0.8
Delo® XLE Multigrade	10W-40	3059	CI-4	E6, E7	0.86	-42	232	98	14.5	154	10	1.0
Delo® XSD Synthetic	10W-40	3279	CF	E7, E4	0.866	< -27	236	90	13.6	152	15.9	1.8
Four-Stroke Lawnmower Oil	30	2699	SJ/CF	-	0.894	-21	248	102	11.5	100	6.1	0.8
Gas Engine Oil HD	40	3020	-	-	0.876	-39	> 220	114	13.0	108	7.0	0.77
Havoline® ECO 5	0W-20	3119	SN	-	0.85	-45	> 200	43	8.2	168	8.9	0.9
Havoline® ECO 5	5W-30	3120	SN	-	0.85	-38	230	66	11.0	160	8.9	0.9
Havoline® Energy	5W-30	3192	SL/CF	A1/B1, A5/B5	0.851	-45	224	51.0	9.5	174	10	1.1
Havoline® Energy EF	5W-30	3278	-	C1	0.85	-39	224	53	9.5	166	6.2	0.5
Havoline® Fully Synthetic E	0W-40	3293	SN	A3/B4	0.84	-57	232	74.9	13.3	180	9.4	1.2
Havoline® Fully Synthetic	5W-40	3032	SN	C3	0.86	-30	205	84	13.8	168	7.8	0.8
Havoline® Fully Synthetic C3	5W-30	3042	SN	C3	0.85	-36	≥ 200	69.3	11.7	164	7.1	0.8
Havoline® Premium	20W-50	1320	SL/CF	-	0.87	-36	264	172	19.1	126	7.6	1.0
Havoline® Premium Plus	10W-30	2967	SM/CF/ GF-4	-	0.89	-30	≥ 205	69	10.2	132	7.7	0.9
Havoline® ProDS Fully Synthetic	0W-40	3293	SN	A3/B4	0.84	-57	232	74.9	13.3	180	9.4	1.2
Havoline® ProDS Fully Synthetic C3	5W-30	3042	SN	C3	0.85	-36	≥ 200	69.3	11.7	164	7.1	0.8
Havoline® ProDS Fully Synthetic ECO 5	0W-20	3119	SN	-	0.85	-45	> 200	43	8.2	168	8.9	0.9
Havoline® ProDS Fully Synthetic ECO 5	5W-30	3120	SN	-	0.85	-38	230	66	11.0	160	8.9	0.9
Havoline® ProDS Fully Synthetic LE	5W-40	3032	SN	C3	0.86	-30	205	84	13.8	168	7.8	0.8
Havoline® Super 2T	-	3050	TC	-	0.878	-30	91	64.2	9.8	136	0.13	0.12
Havoline® Synthetic Blend	10W-40	3031	SN/CF	A3/B4	0.87	-30	≥ 205	93	14.1	156	10.9	1.2
Havoline® Ultra R	5W-30	3275	-	C4	0.85	-39	228	66	11.7	174	7.3	0.5
Havoline® Ultra V	5W-30	3029	VW 504 00, 507 00	C3	0.85	-45	195	69	11.9	168	7	0.7
HDAX® 5100 Ashless Gas Engine Oil	40	3187	-	-	0.87	-18	≥ 240	134	13.5	95	3.1	nil
HDAX® 5200 Low Ash Gas Engine Oil	40	3184	CF	-	0.881	-18	≥ 225	124	13.5	104	4.2	0.5
HDAX® 5300 Medium Ash Gas Engine Oil	40	2951	CD	-	0.886	-18	≥ 230	129	13.6	100	6.2	0.7



## TYPICAL CHARACTERISTICS – ENGINE OILS Cont.

Product	SAE Grade	Code	API	ACEA	Density @ 15°C kg/L	Pour Point °C	Flash Point °C *	Viscosity cSt @		VI	BN mgKOH/g D2896	Sulfated Ash %m
HDAX® 5500 LFG Gas Engine Oil	40	2913	CD	-	0.886	-18	≥ 215	144	15.1	105	6.0	0.7
HDAX® 6500 LFG Gas Engine Oil	40	3234	-	-	0.873	-36	> 230	121	13.9	108	4.5	0.55
HDAX® 7200 Low Ash Gas Engine Oil	40	3095	-	-	0.881	-18	278	119	13.5	110	5.1	0.51
HDAX® 9200 Low Ash Gas Engine Oil	40	3270	-	-	0.881	-18	278	125	13.5	110	4.2	0.50
Multigrade Engine Oil	20W-50	1459	SG/CD	-	0.87	-36	268	168	18.7	125	6.3	0.7
Super GT-f	5W-30	3358	-	A5/B5	0.855	-42	226	54.4	9.79	168	10.8	1.24
Super Outboard 3	-	2709	NMMA TC-W3®		0.876	-39	102	56.2	9.1	125	5.5	< 0.01
Super Tractor	15W-40	2710	CF-4	-	0.886	-33	≥ 200	113	15.1	139	10.1	1.4
Taro® 30 DP 30	30	2739	-	-	0.901	-18	240	96.8	11.1	100	30	3.6
Taro® 30 DP 40	40	2738	-	-	0.906	-18	240	139	14.0	97	30	3.6
Taro® 40 XL 40	40	2735	-	-	0.911	-18	240	139	14.0	97	40	4.8
Taro® 50 XL 40	40	2736	-	-	0.910	-12	240	126	14.0	109	51	6.1
Taro® Special HT 55	50	3255	-	-	0.92	-15	270	230	15.9	230	55	6.9
Taro® Special HT 70	50	2873	-	-	0.93	-15	270	220	20.0	105	70	9.0
Taro® Special HT 100	50	3346	-	-	0.94	-15	270	206	19.5	105	100	12.5
Taro® Special HT LS 40	50	3003	-	-	0.92	-15	270	247	21.0	100	40	5.1
Two-Stroke Lawnmower Oil	-	2701	JASO FB		0.877	-18	91#	52	7.5	100	1.3	0.09
Veritas 800 Marine SAE 30	30	1338	-	-	0.89	-9	240	108	11.9	98	5.4	0.7

\* Cleveland Open Cup Flashpoint.

# Pensky-Martens Closed Cup Flashpoint.

## TYPICAL CHARACTERISTICS – FUELS

Product	Code	Density @ 15°C kg/L	Flash Point (closed cup) °C	Research Octane Number	Motor Octane Number	Cetane Index	Sulphur mg/kg	Energy, net	
								MJ/L	MJ/kg
<b>Petrol</b>									
Vortex 98	103	0.75	-40	98.4	87.3	-	16	32.1	42.7
Vortex 95	102	0.74	-40	95.4	85.3	-	26	31.8	42.9
Unleaded Petrol 91	200	0.73	-40	91.4	82.4	-	34	31.6	43.1
E10 Unleaded Petrol	202	0.74	< -45	94.0 min	81.0 min	-	31	30.6	41.8
<b>Diesel</b>									
Extra Low Sulphur Diesel	429	0.84	71	-	-	55	7	35.9	42.9
Vortex Diesel	441	0.84	71	-	-	55	7	35.9	42.9
Active Tec <sup>o</sup>	449	0.84	71	-	-	55	7	35.9	42.9
<b>Other</b>									
Jet A-1	500	0.80	43	-	-	-	-	34.5	43.4
Kerosene	600	0.80	43	-	-	-	-	34.5	43.4
Automotive LPG	900	0.51	-100*	-	-	-	-	25.8*	50.2*

Note: Data generally represents typical values over a twelve month period ending 30 June 2016.

\* Gross value.

TYPICAL CHARACTERISTICS – GREASES

Product	NLGI Grade	Code	Thickener Type	Colour	Pen Worked	Drop Point °C	Operating Temp °C	Base Oil Vis. cSt @ 40°C	Weld Load kgf	Additives <sup>3</sup>
Anti-Seize Grease	2	3056	Bentone	Dark Grey	280	> 270	-25 to 130 <sup>4</sup>	520	620	Anti-seize
Delo® Grease EP 2	2	2909	Lithium Complex	Blue	280	255	-40 to 140	226	315	EP
EMG 2	2	3369	Polyurea	Blue	280	260	-20 to 150	110-145	400	EP
EP Grease C 0	0	1080	Lithium	Brown	370	180	-30 to 100	153	315	EP
EP Grease C 00	00	1081	Lithium	Brown	415	Semi-Fluid	-30 to 70	153	315	EP
EP Grease C 000	000	1082	Lithium	Brown	460	Semi-Fluid	-30 to 60	153	315	EP
EP Grease C 1	1	1083	Lithium	Brown	325	188	-30 to 130	153	315	EP
EP Grease C 2	2	1084	Lithium	Brown	280	188	-30 to 130	153	315	EP
EP Grease C 3	3	1085	Lithium	Brown	235	188	-20 to 130	153	315	EP
Food Machinery Grease	2	1086	Alumin. Complex	White	280	265	-30 to 160	220	250	EP
Liplex EP2	2	1090	Lithium Complex	Blue/Green	280	265	-25 to 140	185	400	EP
Liplex Heavy Duty 2	2	3043	Lithium Complex	Brown	280	> 230	-15 to 130	680	> 250	EP
Liplex S220	2	3356	Lithium Complex	Purple	280	260	-40 to 140	220	> 250	EP
LV Grease 3	3	3282	Lithium	Amber	235	180	-30 to 130	100	-	-
Mine Grease Premium Fine	2	3349	Lithium Complex	Black	280	> 220	-20 to 130	580	800	Moly, EP
Mine Grease Premium 2	2	3021	Lithium Complex	Black	280	> 220	-20 to 130	580	800	Moly, EP
Mine Grease Premium Winter	1	3194	Lithium Complex	Black	325	260	-10 to 18 Ambient	580	800	Moly, EP
Molygrease EP2	2	1093	Lithium	Black	280	188	-30 to 130	153	400	Moly, EP
Molygrease HD 2	2	3345	Lithium	Black	280	197	-20 to 120	> 460	400	Moly, EP
Multipurpose Grease Green	2	2998	Bentone	Green	280	Non-Melt	-20 to 135 <sup>2</sup>	460	160	-
Premium Cotton Picker Grease	00	1056	Lithium	Light Green	415	Semi-Fluid	-30 to 100	23	-	EP
SL Drill Rod Thread Grease	3	3196	Al Complex	Brown	235	> 260	-	-	620	Anti-seize
SL OGL 800-Multi	~0	3197	Al Complex	Dark Grey	370	-	-9 to 45	4,000	800	EP
SL OGL GM1000 H	0	3256	Lithium	-	-	-	-	4,123	800	-
SL Rail Biogrease	2	3238	Ca Sulfonate	Brown	280	260	0 to > 54	56	500	EP
Talcor® BRB Super	2	3342	Lithium	Dark Grey	~280	192	to 98	180	500	EP
Talcor® Breakout	2	3297	Complex based	Brown	~280	279	to 152	460	315	-
Talcor® Breakout Blue	1	2819	Complex based	Blue	~315	265	to 152	426	400	-
Talcor® Cam Lube	1	2788	Inorganic Gel	Black	~290	260	-	1300	800	-
Talcor® Complex BG	2	3301	Lithium Complex	Blue Green	281	270	to 152	424	500	-
Talcor® Complex BG Moly	2	3302	Lithium Complex	Blue Grey	~280	270	to 152	320	500	Moly
Talcor® Coupling Grease	2	3303	Lithium	Grey Black	~280	185	to 70	1,000	500	-
Talcor® Crystalliser Lube Heavy	0.5	3305	Modified Complex	Dark Grey	~347	180	-	1,400	620	-
Talcor® LP Lube 460	-	3312	Synthetic	Dark Grey	~405	Semi-fluid	-	460	500	-

## TYPICAL CHARACTERISTICS – GREASES Cont.

Product	NLGI Grade	Code	Thickener Type	Colour	Pen Worked	Drop Point °C	Operating Temp °C	Base Oil Vis. cSt @ 40°C	Weld Load kgf	Additives <sup>3</sup>
Talcor® Marine Wire Rope Compound	1.5	3313	-	Light Brown	~305	160	-	460	400	-
Talcor® Mill Brass Compound	1	3314	Synthetic	Blue	~315	> 260	-	1070 <sup>6</sup>	> 800	-
Talcor® OPG-4 #000	000	3318	Inorganic	Black	~460 <sup>U</sup>	Semi-fluid	to 85	1,413 <sup>6</sup>	620	-
Talcor® OPG-4 #1	1	3319	Inorganic	Black	~320 <sup>U</sup>	> 300	to 85	1,197 <sup>6</sup>	800	-
Talcor® OPG-5 #1/SR1	1	3320	Mainly synthetic	Grey	~325 <sup>U</sup>	-	-	1,860	> 800	-
Talcor® OPG-5 #1/SR3	-	3321	Mainly synthetic	Grey	~325 <sup>U</sup>	-	-	3,600	> 800	-
Talcor® RC Grease	2	3327	Non-melt	Grey	~280	> 300	-	354	500	-
Talcor® Rockbreaker Grease Tack	2	3328	Non-melt	Grey	~280	> 300	-	354	500	-
Talcor® Rubber Grease	1	3331	Synthetic Inorganic	White to Light Cream	325	> 285	-	300	-	-
Talcor® Super HD #1	1	3332	Lithium Mixed	Dark Grey	321	178	to 94	460	800	Moly
Talcor® Super HD #2	2	3334	Lithium Mixed	Dark Grey	281	191	to 102	490	800	Moly
Talcor® Super HD #1/M5	1	3333	Lithium Mixed	Dark Grey	~325	185	to 102	480	620	Moly
Talcor® Super HD #2/M5	2	3335	Lithium Mixed	Dark Grey	280	195	to 102	480	620	Moly
Talcor® Super HD Platinum #1	1	3359	Lithium Complex	Grey Black	~325	250	-	940	800	-
Talcor® SWR Compound	000	1657	-	Pale Tan	468 <sup>U</sup>	-	-	-	-	-
Talcor® Tailbar Grease	1	3337	Inorganic	Black	~320	260	-	1,500	800	-
Talcor® TT Thermal Soft	1	3341	Synthetic Inorganic	Semi-transparent	~330	> 300	to 220	1,000	-	-
Texando® CX 2 EP	2	3352	Calcium Complex	Yellow/Brown	280	> 240	-25 to 140	~150	> 300	EP
Texando® FO 20 EP	2	1071	Calcium Complex	Yellow/Brown	280	260	-30 to 145	110	244 <sup>5</sup>	EP
Texclad 2	2	1072	Calcium	Black	280	88	-10 to 80	875	-	Graphite, Moly
TM Gearlube Premium	-	1075	Lithium	Black	-	Semi-fluid	-5 to 100	425@100°C	315	EP
Ultra-Duty Grease EP 1	1	1076	Lithium	Red	325	174	-20 to 140	334	300	EP, Tack
Ultra-Duty Grease EP 2	2	1077	Lithium	Red	280	180	-10 to 140	380	300	EP, Tack

1 Spray Grease without solvent or aerosol propellant.

2 Up to 250°C with frequent re-lubrication.

3 Most greases also contain rust and oxidation inhibitors.

4 May be used up to 900°C where carrier grease is decomposed, leaving solid additives to afford lubrication.

5 DIN 51350-4.

6 Viscosity of finished product.

U: Unworked penetration.

EP: Extreme Pressure.

TYPICAL CHARACTERISTICS – INDUSTRIAL LUBRICANTS

Product	ISO Grade	Code	Density @ 15°C kg/L	Pour Point °C	Flash Point °C	Viscosity cSt @		VI	FZG Pass Stage
						40°C	100°C		
Cetus® DE 100	100	1350	0.96	-35	252	95.5	10.1	83	-
Cetus® PAO 46	46	1632	0.84	-57	232	46	8.1	136	-
Cetus® PAO 68	68	1633	0.85	-52	240	68	10.3	141	-
Chain & Bar Oil	-	1518	0.894	-12	230	127	-	-	-
Clarity® Hydraulic Oil AW 32	32	3259	0.86	-33	222	33.6	5.6	104	11
Clarity® Hydraulic Oil AW 46	46	3260	0.87	-30	224	46.0	6.8	101	12
Clarity® Hydraulic Oil AW 68	68	3261	0.87	-30	224	64.6	8.5	102	12
Clarity® Hydraulic Oil AW 100	100	3262	0.87	-40	266	95	13.8	145	-
Clarity® Synthetic Hydraulic Oil AW 32	32	3263	0.87	-48	228	32.5	7.0	186	10
Clarity® Synthetic Hydraulic Oil AW 46	46	3264	0.87	-42	230	46.5	9.3	186	12
Clarity® Synthetic Hydraulic Oil AW 68	68	3265	0.87	-45	218	68.0	11.4	162	12
Compressor Oil EP VDL 100	100	3055	0.89	-12	248	100	11.0	97	-
Compressor Oil EP VDL 150	150	3054	0.89	-12	286	150	14.6	95	-
Crater® 2	-	1060	0.99	36	284	-	395	-	-
Crater® 5	-	1062	1.00	-	290	-	1015	-	-
Erdol CRA 91	-	1403	0.850	-	200	2.5	-	-	-
Gernol 220X	220	3023	0.890	-3	260	220	19	97	-
Gernol 320X	320	1419	0.895	-3	260	320	24.1	96	-
Gernol 460X	460	3153	0.91	≤ 6	260	460	-	-	-
GST EP 32	32	3291	0.862	-30	222	32	5.4	102	> 12
GST EP 46	46	3343	0.862	-30	224	46	6.8	102	> 12
GST Oil 32	32	3156	0.862	-36	222	30.4	5.2	102	-
GST Oil 46	46	3157	0.868	-36	224	43.7	6.6	102	-
GST Premium 32	32	3257	0.860	-14	224	31.5	5.4	105	-
Hydraulic Oil AW 10	10	3122	0.86	-26	160	10	2.5	108	-
Hydraulic Oil AW 46	46	1597	0.88	-33	238	44	6.8	-	-
Hydraulic Oil AW 68	68	1281	0.89	-30	240	65	8.9	-	-
Journaltex HD-C	150	3121	0.910	-	190	117	13.4	110	-
Meropa® 68	68	1234	0.882	-15	> 200	68	8.8	101	12
Meropa® 100	100	1227	0.878	-15	> 200	100	11.4	100	12
Meropa® 150	150	1229	0.883	-15	> 215	150	14.9	99	12
Meropa® 220	220	1230	0.890	-15	> 215	220	19.2	98	12
Meropa® 320	320	1231	0.892	-15	> 235	320	24.3	97	12
Meropa® 460	460	1233	0.907	-15	> 235	439	29.8	96	12
Meropa® 680	680	1235	0.920	-12	> 235	650	36.5	91	12
Meropa® 1000	1000	1228	0.928	-3	> 215	955	44	85	12
Meropa® 4000	-	2702	0.958	-6	285	3940	108	85	-
Meropa® Synthetic EP 220	220	3000	0.849	-45	238	209	26.9	164	> 12
Meropa® Synthetic EP 320	320	3273	0.852	-39	238	304	35.8	165	> 12
Meropa® Synthetic EP 680	680	3274	0.857	-30	242	646	63.0	168	> 12
Meropa® XL 220	220	3347	0.867	-37	248	220	22.3	120	> 12
Meropa® XL 320	320	3348	0.878	-37	248	320	29.7	124	> 12
Mould Oil 010	-	1449	0.867	-	70	21	-	-	-
Mould Oil 20	-	1450	0.860	-	150	6.8	-	-	-
Mould Oil 22	-	1325	0.870	-	70	18.9	-	-	-

## TYPICAL CHARACTERISTICS – INDUSTRIAL LUBRICANTS Cont.

Product	ISO Grade	Code	Density @ 15°C kg/L	Pour Point °C	Flash Point °C	Viscosity cSt @		VI	FZG Pass Stage
						40°C	100°C		
Mould Oil 275	-	1452	0.846	-	70	3.9	-	-	-
Mould Oil 3	-	1453	0.845	-	70	4.0	-	-	-
Mould Oil 4SDO	-	3210	0.844	-	70	4.0	-	-	-
Premium Harvester Hydraulic Oil	68	1498	0.882	-33	226	74	12.1	161	10
Propar 12G2	~12	4960	0.83	-36	≥ 180	12.4	3.1	105	-
Propar 22	22	4916	0.86	≥ -12	≥ 180	22	4.3	104	-
Propar 32	32	4917	0.87	≥ -12	≥ 210	29.8	5.2	101	-
Propar 68	68	4919	0.88	≥ -9	≥ 210	68	8.7	99	-
Propar 100	100	4913	0.883	-9	266	96	10.8	96	-
Propar 320	320	4931	0.90	-9	≥ 237	320	23.9	95	-
Propar 460	460	4918	0.904	-9	318	480	31.2	95	-
Rando® HD 22	22	2046	0.859	-36	190	21.0	4.3	110	-
Rando® HD 32	32	2048	0.86	-33	216	30.5	5.4	110	11
Rando® HD 46	46	2050	0.87	-33	238	44.0	6.8	110	11
Rando® HD 68	68	2051	0.87	-30	240	65.0	8.9	110	11
Rando® HD 100	100	2044	0.873	-21	240	95.5	10.8	97	11
Rando® HD 150	150	2045	0.880	-15	250	143	14.3	97	11
Rando® HDZ 15	15	3213	0.84	-60	150	15.7	3.9	144	10
Rando® HDZ 32	32	3214	0.86	-49	204	33	6.4	150	11
Rando® HDZ 46	46	3215	0.86	-47	216	46.7	8.3	153	11
Rando® HDZ 68	68	3216	0.87	-42	222	68.7	11.1	154	11
Rando® HDZ 100	100	3217	0.88	-37	236	101	14.2	145	11
Rando® MV 15	15	1328	0.85	-42	154	15.8	4.0	155	-
Rando® MV 32	32	1329	0.87	-36	210	33.5	6.6	154	11
Rando® MV 46	46	1330	0.87	-33	214	44	8.0	154	11
Rando® MV 68	68	1331	0.88	-33	220	65	10.6	153	11
Rando® MV 100	100	2706	0.89	-27	228	99.5	14.6	152	11
Rando® WM 32	32	1329	0.891	-45	172	32	7.41	211	10
Regal® R&O 32	32	1334	0.871	-9	212	32	5.4	102	-
Regal® R&O 46	46	1335	0.874	-9	224	46	6.7	100	-
Regal® R&O 68	68	1336	0.875	-9	234	68	8.6	98	-
Regal® R&O 100	100	1333	0.887	-9	254	100	11.1	96	-
Regal® SGT 22	22	3240	0.995	-57	270	25.6	5.1	131	-
Rock Drill Lube 100	100	1608	0.927	-27	> 206	96	11.5	107	-
Rock Drill Lube 320	320	1609	0.934	-15	> 233	305	26.3	96	-
Rock Drill Lube 460	460	2593	0.904	-9	> 232	460	30.7	96	-
RPM Borate EP Lube 150	150	1340	0.91	-30	≥ 190	143	14.6	101	> 12
RPM Borate EP Lube 220	220	1341	0.913	-21	≥ 190	210	18.8	100	> 12
RPM Borate EP Lube 320	320	1342	0.917	-18	≥ 200	306	23.8	98	> 12
RPM Borate EP Lube 460	460	1343	0.922	-18	≥ 200	440	30	97	> 12
RPM Borate EP Lube 680	680	1345	0.936	-9	≥ 200	660	40	99	> 12
SL Camlube	-	3195	1.22	-	204	-	-	-	-
SL Drag Cable Lube	-	3198	0.97	-	121 <sup>3</sup>	783,000 <sup>1</sup> 1381 <sup>2</sup>	1104 <sup>1</sup> 59 <sup>2</sup>	-	-
SL Gear Oil Heavy Duty	460	3256	0.88	-11	204	460	36.6	120	> 12
SL Gear Oil Heavy Duty	1000	3218	0.902	-12	243	1000	61.5	120	> 12
SL Gear Oil Heavy Duty	1500	3219	0.909	-12	243	1539	83.1	123	> 12

TYPICAL CHARACTERISTICS – INDUSTRIAL LUBRICANTS Cont.

Product	ISO Grade	Code	Density @ 15°C kg/L	Pour Point °C	Flash Point °C	Viscosity cSt @		VI	FZG Pass Stage
						40°C	100°C		
SL Hydraulic Fluid FR 46	46	3245	0.92	< -30	300	48	9.5	190	> 12
SL Hydraulic Fluid FR 68	68	3246	0.92	< -30	304	68	12.5	185	> 12
SL Gear Oil Heavy Duty 460	460	3256	0.88	-11	204	460	36.6	120	> 12
SL Gear Oil Heavy Duty 1000	1000	3218	0.9	-12	243	1000	61.5	120	> 12
SL Gear Oil Heavy Duty 1500	1500	3219	0.91	-12	243	1539	83.1	123	> 12
SL OGL 250 NC	-	3182	1.0	4	83 PMCC	19,110 <sup>1</sup>	3,730 <sup>1</sup>	-	-
SL OGL NA	-	3236	0.896	-	174 PMCC	4,500 to 6000 <sup>2</sup>	1,100 <sup>1</sup>	-	> 12
SL OGL ST2000	-	3243	1.01	-	> 110	-	-	-	-
Suniso 4SA	'54'	1626	0.897	-33	210	54	7.0	68	-
Synthetic Wheel Motor Lubricant EP 460	460	2961	0.913	-32	238	460	39.5	132	12
Synthetic Wheel Motor Lubricant EP 680	680	2962	0.916	-34	238	680	51.6	132	12
Talcor® CBR Fluid	32	3298	-	-	186	31.5	-	-	-
Talcor® Chain Lube NF	-	3299	-	-	-	-	-	-	-
Talcor® Premium Gear Oil	320	3325	Grey	-	274	310	-	-	12
Talcor® Premium Gear Oil	460	1655	Grey	-	300	430	-	-	12
Talcor® Premium Gear Oil	680	3326	Grey	-	244	680	-	-	12
Talcor® Premium Gear Oil	1000	3323	Grey	-	256	1,000	-	-	12
Talcor® Premium Gear Oil	1300	3324	Grey	-	270	1,350	-	-	12
Texatherm 46	46	1357	0.855	-15	246	46.6	7.1	112	-
Torque Fluid 32	32	1358	0.875	-27	210	32	5.4	102	12+
Turbine Oil Symbol 2190 TEP	"80"	3338	0.87	-12	246	79.8	9.7	99	-
Transformer Oil BSI	10	1692	0.890	-48	146	10.2	-	-	-
Transformer Oil BSI Inhibited	10	1693	0.88	-48	146	10.2	-	-	-
Trusol EP	-	1703	0.945	-	-	40	-	-	-
Trusol GP	-	1704	0.906	-	-	31.5	-	-	-
Vacuum Pump Oil R31	68	1595	0.881	-9	232	68	8.8	97	-

1 Without diluent.  
2 Finished product with diluent.  
3 Pensky-Martens Closed Cup Flashpoint.  
4 Baseoil with polymer.

## TYPICAL CHARACTERISTICS – TRANSMISSION FLUIDS

### AUTOMOTIVE GEAR AND TRANSMISSION LUBRICANTS

Product	SAE Grade		ISO Grade	Code	Density @ 15°C kg/L	Pour Point °C	Flash Point °C *	Viscosity cSt @		VI
	Gear	Engine						40°C	100°C	
Autotrans Fluid BW	-	-	-	1275	0.862	-39	218	38	7.0	149
CVT Fluid Multi-Vehicle	-	-	-	3285	0.854	-48	200	34	7.2	183
Delo® Gear EP-5 SAE 80W-90	80W-90	-	-	2116	0.900	-30	≥ 165	140	15	108
Delo® Gear EP-5 SAE 85W-140	85W-140	-	-	2117	0.908	-15	≥ 180	344	25.5	97
Delo® Gear ESI	80W-90	-	-	2876	0.887	-33	210	140	14.2	99
Delo® Syn ATF HD	-	-	-	2915	0.854	-45	228	35.3	7.4	183
Delo® Synthetic Transmission Fluid SAE 50	-	50	-	3038	0.86	< -45	221	132	17.5	146
Delo® Syn-Gear XDM SAE 75W-90	75W-90	-	-	3039	0.87	-54	180	106	14.9	146
Delo® Syn-Gear XDM SAE 80W-140	80W-140	-	-	3040	0.88	-39	192	275	27.2	130
Delo® Syn-Trans XE SAE 75W-90	75W-90	-	-	3038	0.850	-42	238	95.1	14.8	163
Easy Shift	75W-90	-	-	1418	0.876	-39	≥ 165	95.9	16.4	186
Final Drive SAE 60	60	-	-	2944	0.910	-18	≥ 220	335	25.1	97
Gear Oil SAE 75W-85	75W-85	-	-	3284	0.88	-42	150	77.9	12.8	164
Gear Oil LSD 90	90	-	-	1835	0.912	-15	≥ 180	203	18.3	99
Gear Oil LSD 140	140	-	-	2700	0.917	-12	≥ 198	387	27.8	98
Geartex LSD 90	90	-	-	1835	0.912	-15	≥ 180	203	18.3	99
Geartex LSD 140	140	-	-	2700	0.917	-12	≥ 198	387	27.8	98
Havoline® ATF-J	-	-	-	2988	0.870	-51	≥ 190	36.9	7.3	165
Havoline® Synthetic ATF Multi-Vehicle DEXRON®-VI	-	-	-	3222	0.85	-54	217	30.6	6.0	147
RPM Borate EP Lube 150	80W-90	-	150	1340	0.910	-30	≥ 190	143	14.6	101
RPM Borate EP Lube 220	-	-	220	1341	0.913	-21	≥ 190	210	18.8	100
RPM Borate EP Lube 320	-	-	320	1342	0.917	-18	≥ 200	306	23.8	98
RPM Borate EP Lube 460	85W-140	-	460	1343	0.922	-18	≥ 200	440	30	97
RPM Borate EP Lube 680	-	-	680	1345	0.936	-9	≥ 200	660	40	99
Super Tractor SAE 15W-40	-	15W-40	-	2710	0.886	-33	≥ 200	113	15.1	139
Synthetic Gear Lubricant FM 75W-140	75W-140	-	-	3083	0.87	-48	200	190	24	155
Texamatic 1888	-	-	-	2940	0.855	-51	190	35.8	7.2	168
Textran® TDH Premium	-	-	-	2069	0.889	-39	≥ 205	57.5	9.5	148
Thuban® GL-5 EP 80W-90	80W-90	-	-	2116	0.900	-30	≥ 165	140	15	108
Thuban® GL-5 EP 85W-140	85W-140	-	-	2117	0.908	-15	≥ 180	344	25.5	97
Torque Fluid 414	-	10W	-	2711	0.880	-39	234	40.8	6.5	110
Torque Fluid 434	-	30	-	2119	0.903	-30	254	92.6	10.9	102
Torque Fluid 454	-	50	-	2120	0.909	-18	250	224	19.1	96
Torque Fluid 464	-	60	-	2712	0.911	-6	242	317	24.0	96

\* Cleveland Open Cup Flashpoint.



Quick guide to Havoline® engine oils

Product	SAE	Code	API	ILSAC	ACEA	GM	MB	VW
Havoline® ProDS Fully Synthetic LE	5W-40	3032	SN		A3/B3** A3/B4** C3	dexos2™	229.51	
Havoline® ProDS Fully Synthetic	0W-40	3293	SN		A3/B3 A3/B4		229.5	502 00* 505 00*
Havoline® ProDS Fully Synthetic C3	5W-30	3042	SN		A3/B3** A3/B4** C3	dexos2™	229.51	
Havoline® Energy	5W-30	3192	SL/CF		A1/B1 A5/B5			
Havoline® Energy EF	5W-30	3278			C1			
Havoline® Ultra R	5W-30	3275			C4		226.51	
Havoline® Ultra V	5W-30	3029			C3		229.31 229.51	504 00 507 00
Havoline® ProDS Fully Synthetic ECO 5	0W-20	3119	SN	GF-5		dexos1™		
Havoline® ProDS Fully Synthetic ECO 5	5W-30	3120	SN	GF-5		dexos1™		
Havoline® Synthetic Blend	10W-40	3031	SN		A3/B3 A3/B4		229.3	502 00* 505 00*
Havoline® Premium Plus	10W-30	2967	SM/CF	GF-4				
Havoline® Premium	20W-50	1320	SL/CF					
Multigrade Engine Oil	20W-50	1459	SG/CD					

\* Planned \*\* Suitable for use

Quick guide to Delo® engine oils

Product	SAE	Code	API	JASO	ACEA	MB
Delo® 400 XLE Synthetic	5W-30	3276	CJ-4/SN	DH-2	E9, E7, E6	228.51** 228.31**
Delo® 400 XLE Synblend	10W-30	3249	CJ-4/SM	DH-2	E9	228.31*
Delo® 400 LE	15W-40	3006	CJ-4/SM	DH-2	E9, E7, E5, E3	228.31
Delo® 400 Multigrade	15W-40	2696	CI-4 Plus/SL	DH-1	E7, E5, E3	228.3
Delo® Gold Ultra	15W-40	3159	CI-4/SL	DH-1	E7, E5	228.3
Delo® Silver	30	2897	CF/SJ			
Delo® Silver	40	2898	CF/SJ			
Delo® XLE Multigrade	10W-40	3059	CI-4		E7, E6	226.9 228.51
Delo® XSD Synthetic	10W-40	3279	CF		E7, E4	228.5**
Super Tractor	15W-40	2710	CF-4/CF/SF			

\* Pending \*\* Planned

# INDEX







Product	Product Code	Page
<b>A</b>		
Active Tec®		159
AdBlue®	3045, 3183	49
Anti-Freeze Anti-Boil Coolant	1268	60
Anti-Freeze Anti-Boil Coolant Premixed	3104	60
Anti-Seize Grease	3056	140
Autotrans Fluid BW	1275	35
<b>B</b>		
Bio B5 Diesel		161
Bio B20 Diesel		161
Bio E10 Unleaded		156
Brake and Clutch Fluid	1287	49
<b>C</b>		
Caltest NSW, QLD, WA	3350, 3353, 2594	50
Cetus® DE 100	1350	97
Cetus® PAO 46, 68	1632, 1633	97
Chain & Bar Oil	1367	111
Clarity® Hydraulic Oil AW 32 – 100	3259, 3260, 3261, 3262	86
Clarity® Synthetic Hydraulic Oil AW 32 – 68	3263, 3264, 3265	85
Clean Tec®		160
CNG		162
Compressor Oil EP VDL 100, 150	3055, 3054	98
Cotton Picker Spindle Cleaner	1370	149
Crater® 2, 5	1060, 1062	105
CVT Fluid Multi-Vehicle	3285	36
<b>D</b>		
Delo® 400 LE SAE 15W-40	3006	13
Delo® 400 Multigrade SAE 15W-40	2696	13
Delo® 400 NG SAE 15W-40	3281	22
Delo® 400 XLE Synblend SAE 10W-30	3249	12
Delo® 400 XLE Synthetic SAE 5W-30	3276	12
Delo® 710 LE SAE 20W-40	3099	23
Delo® 1000 Marine SAE 30, 40	1294, 1295	27
Delo® 6130 CFO SAE 40, SAE 20W-40	2982, 2852	23
Delo® ELC Anti-Freeze / Coolant – Premixed 50/50	2981	55
Delo® ELI Premixed	3280	58
Delo® Gear ESI SAE 80W-90	2876	40
Delo® Gold Ultra SAE 15W-40	3159	15
Delo® Grease EP 2	2909	129
Delo® Silver SAE 30, 40	2897, 2898	15
Delo® Syn ATF HD	2915	34, 38
Delo® Syn-Gear XDM SAE 75W-90, SAE 80W-140	3039, 3040	39
Delo® Synthetic Transmission Fluid SAE 50	3038	38
Delo® XLC Anti-Freeze / Coolant – Concentrate	3354	56
Delo® XLC Anti-Freeze / Coolant – Premixed 50/50	3092	57
Delo® XLE Multigrade SAE 10W-40	3059	14
Delo® XLI Corrosion Inhibitor – Premixed	3093	59
Delo® XSD Synthetic SAE 10W-40	3279	14
<b>E</b>		
Easy Shift SAE 75W-90	1418	37
EMG 2	3369	141
Emgard Gear Ultra 460	3267	107
Enretech-1	3008	150
Enretech Kleen Sweep	3113 (10kg), 3113 (5kg)	151
Enretech Spill Kit	3106	151
Enretech Xtrasorb	3114	150
EP Grease C 000 – 3	1082, 1081, 1080, 1083,	
	1084, 1085	134
Erdol CRA 91	1403	114
Extra Low Sulphur Diesel		157
<b>F</b>		
Final Drive SAE 60	2944	44
Food Machinery Grease	1086	102, 138
Four-Stroke Lawn Mower and Stationary		
Engine Oil SAE 30	2699	18

Product	Product Code	Page
<b>G</b>		
Gas Engine Oil HD SAE 40	3020	22
Gear Oil LSD SAE 90, SAE 140	1835, 2700	42
Gear Oil SAE 75W-85	3284	37
Gernol 220X, 320X, 460X	3023, 1419, 3153	110
GST EP 32, 46	3291, 3343	118
GST Oil 32, 46	3156, 3157	119
GST Premium 32	3257	120
<b>H</b>		
Hand Clean	3172	148
Havoline® ATF-J	2988	35
Havoline® Energy EF SAE 5W-30	3278	7
Havoline® Energy SAE 5W-30	3192	7
Havoline® Premium Plus SAE 10W-30	2967	10
Havoline® Premium SAE 20W-50	1320	10
Havoline® ProDS Fully Synthetic SAE 0W-40	3293	6
Havoline® ProDS Fully Synthetic C3 SAE 5W-30	3042	5
Havoline® ProDS Fully Synthetic ECO 5 SAE 0W-20	3119	8
Havoline® ProDS Fully Synthetic ECO 5 SAE 5W-30	3120	9
Havoline® ProDS Fully Synthetic LE SAE 5W-40	3032	5
Havoline® Super 2T	3050	17
Havoline® Synthetic ATF Multi-Vehicle DEXRON®-VI	3222	33
Havoline® Synthetic Blend SAE 10W-40	3031	9
Havoline® Ultra R SAE 5W-30	3275	6
Havoline® Ultra V SAE 5W-30	3029	8
Havoline® Xtended Life Anti-Freeze / Coolant		
– Concentrate	3355	57
Havoline® Xtended Life Inhibitor – Concentrate	1602	60
HDAX® 5100 Ashless Gas Engine Oil SAE 40	3187	22
HDAX® 5200 Low Ash Gas Engine Oil SAE 40	3184	20
HDAX® 5300 Medium Ash Gas Engine Oil SAE 40	2951	21
HDAX® 5500 LFG Gas Engine Oil SAE 40	2913	21
HDAX® 6500 LFG Gas Engine Oil SAE 40	3234	21
HDAX® 7200 Low Ash Gas Engine Oil SAE 40	3095	20
HDAX® 9200 Low Ash Gas Engine Oil SAE 40	3270	19
Hydraulic Oil AW 10, 46 and 68	3122, 1597, 1281	90
<b>J</b>		
Journaltex HD-C	1321	80
<b>K</b>		
Kwik Degreaser	1439	145
<b>L</b>		
Liplex EP2	1090	130
Liplex Heavy Duty 2	3043	130
Liplex S220	3356	129
LPG (Autogas)		162
LV Grease 3	3282	137
<b>M</b>		
Meropa® 68 – 1000, 4000	1234, 1227, 1229, 1230, 1231,	
	1233, 1235, 1228, 2702	104
Meropa® Synthetic EP 220, 320, 680	3000, 3273, 3274	106
Meropa® XL 220, 320	3347, 3348	103
Mine Grease Premium 2	3021	131
Mine Grease Premium Fine	3349	131
Mine Grease Premium Winter	3194	132
Molygrease EP 2	1093	135
Molygrease HD 2	3345	135
Mould Oil 010	1449	114
Mould Oil 20	1450	114
Mould Oil 22	1325	115
Mould Oil 275	1452	115
Mould Oil 3	1453	115
Mould Oil 4SDO	3210	115
Multigrade Engine Oil SAE 20W-50	1459	11
Multipurpose Grease Green	2998	140

Product	Product Code	Page	Product	Product Code	Page
<b>O</b>					
Opal Unleaded Petrol		156	Talcor® Super HD #1/M5, #2/M5	3333, 3335	77
<b>P</b>			Talcor® Super HD Platinum #1	3359	78
PG Long Drain Coolant Premixed	3221	58	Talcor® SWR Compound	1657	78
Power Tec <sup>®</sup>		159	Talcor® Tailbar Grease	3337	79
Premium Cotton Picker Grease	1056	136	Talcor® TT Thermal Soft	3341	79
Premium Harvester Hydraulic Oil	1498	91	Taro® 20 DP	2734	27
Propar	4960, 4916, 4917, 4919,		Taro® 30 DP SAE 30, 40	2739, 2738	28
	4913, 4931, 4918	109	Taro® 40 XL SAE 40	2735	28
Pump kits for 20L detergent	3181	147, 148	Taro® 50 XL SAE 40	2736	29
<b>R</b>			Taro® Special HT 55, 70 and 100	3255, 2873, 3346	24
Radiator Protector	2043	61	Taro® Special HT LS 40	3003	25
Rando® HD 22 – 150	2046, 2048, 2050, 2051,		Techron® 5000	1355	50
	2044, 2045	89, 99	Texamatic® 1888	2940	34
Rando HD 46 Dyed Blue	2930	89, 99	Texando® FO 20 EP	1071	139
Rando HD 68 Dyed Blue	1679	89, 99	Texatherm 46	1357	112
Rando® HDZ 15, 32 – 100	3213, 3214, 3215, 3216, 3217	87	Texclad® 2	1072	139
Rando® MV 15, 32 – 100	1328, 1329, 1330, 1331, 2706	88	Textran® TDH Premium	2069	44
Rando® WM	3094	91	Thuban® GL5 EP SAE 80W-90, SAE 85W-140	2116, 2117	40
Refractometers	3102-601, 3103-601	61	Timber Sealer	1101	108
Regal® R&O 32 – 220	1334, 1335, 1336, 1333,		TM Gear Lube Premium	1075	81, 136
	3089, 3178	92, 100, 121	Torque Fluid 32	1358	81
Regal® SGT 22	3240	122	Torque Fluid 414, 414 Dyed Blue,		
Rock Drill Lube 100, 320, 460	1608, 1609, 2593	117	434, 434 Dyed Blue, 454, 464	2711, 2886, 2119, 3030,	
RPM Borate® EP Lubricant 150 – 680	1340, 1341, 1342,			2120, 2712	43
	1343, 1345	41, 105	Tough Clean	3174	147
<b>S</b>			Transformer Oil BSI	1692	124
Safe-D-Greaser	1618	145	Transformer Oil BSI Inhibited	1693	124
Safe-D-Greaser QB	2620	146	Truck Clean	3173	147
Silicate Additive	3146	61	Trusol EP	1703	113
SL Camlube	3195	65	Trusol GP	1704	113
SL Drag Cable Lube	3198	65	Turbine Oil Symbol 2190 Tep	3338	123
SL Drill Rod Thread Grease	3196	66	Two-Stroke Lawn Mower Oil	2701	17
SL Gear Oil Heavy Duty 460, 1000, 1500	3256, 3218, 3219	66	<b>U</b>		
SL Hydraulic Fluid FR 46, 68	3245, 3246	67, 93	Ultra Duty® Grease EP 1, 2	1076, 1077	133
SL OGL 250 NC	3182	67	Unleaded Petrol		156
SL OGL 800 – Multi	3197	68	<b>V</b>		
SL OGL GM1000 H	3290	68	Vacuum Pump Oil R31	1595	125
SL OGL NA	3236	69	Veritas 800 Marine SAE 30	1338	26
SL OGL ST2000	3243	69	Vortex Diesel Injector Cleaner	3212	51
SL Rail Biogrease	3238	80	Vortex Premium 95		155
Snow White Petroleum Jelly	1099	116	Vortex Premium 98		155
Suniso 4SA	1626	101	Vortex Premium Diesel		157
Super Outboard 3	2709	18	<b>W</b>		
Super Tractor SAE 15W-40	2710	16, 45	Wall brackets for 3.5L detergent	2960	148
Synthetic Gear Lubricant FM SAE 75W-140	3083	39	Way Lubricant X 68	1359	111
Synthetic Wheel Motor Lubricant EP 460, 680	2961, 2962	107	White Oil Pharma 15, 68	1719, 1720	102
<b>T</b>			Winter Diesel Blends		158
Talcor® BRB Super	3342	70			
Talcor® Breakout	3297	70			
Talcor® Breakout Blue	2819	70			
Talcor® Cam Lube	2788	71			
Talcor® CBR Fluid	3298	71			
Talcor® Chain Lube NF	3299	71			
Talcor® Coupling Grease	3303	72			
Talcor® Crystalliser Lube Heavy	3305	72			
Talcor® LP Lube 460	3312	72			
Talcor® Marine Wire Rope Compound	3313	73			
Talcor® Mill Brass Compound	3314	73			
Talcor® OGP-4 #000, #1	3318, 3319	74			
Talcor® OGP-5 #1/SR1, #1/SR3	3320, 3321	74			
Talcor® Premium Gear Oil 320 – 1000, 1300	3325, 1655, 3326, 3323, 3324	75			
Talcor® RC Grease	3327	75			
Talcor® Rockbreaker Tack	3328	76			
Talcor® Rubber Grease	3331	76			
Talcor® Super HD #1, #2	3332, 3334	77			

For further information call  
Caltex Technical Solutions on 1300 364 169  
or visit [www.caltex.com.au](http://www.caltex.com.au)

National Order Centre 1300 656 923



Caltex Australia Petroleum Pty Ltd, ABN 17 000 032 128,  
2 Market Street, Sydney NSW 2000



For further information call  
Caltex Technical Solutions on 1300 364 169  
or visit [www.caltex.com.au](http://www.caltex.com.au)

National Order Centre 1300 656 923



**CALTEX**  
Lubricants

Caltex Australia Petroleum Pty Ltd, ABN 17 000 032 128,  
2 Market Street, Sydney NSW 2000

**< CONTENTS   INDEX >**