# LubriTec
# Synthetic Lubricant Cross Reference Chart Series

## Additives Used in Synthetic Lubricants

Chevron Oronite

***Automotive***
**PCMO - OLOA(R) series: (OLOA(R) 55402, OLOA(R) 55409 & OLOA(R) 55411)** (ACEA A3/B3/B4, MB229.1/3, VW), **OLOA(R) 55000 series** (API SL) , **OLOA(R) 59900 series**, **OLOA(R) 9200** (API SH/SJ) , **OLOA(R) 55400 series** (ILSAC GF-4/API SM)

**VI Improver - PARATONE(R)** Viscosity Index Improvers (OCP, non-functionalized, available as solid or concentrate, full range of shear stability index

**HDDEO - OLOA(R) 4500 series** (API CF-4, CG-4, CH-4/SH, SJ), **OLOA(R) 59000 series** (API CJ-4/CI-4/SL, ACEA E-5), **OLOA(R) 8900 series** (ACEA E4/E6/E7, MB 228.5, MAN, and MTU), **OLOA(R) 9100 series** (API CF-4, CF-2, CF)
*Note: HDDEO/PCMO Cascade Systems - OLOA(R) 8888 & OLOA (R) 9999 (both cover a wide range of current & past performance claims)*

**TBN Booster/Detergent - OLOA(R) 219, OLOA(R) 219C** (both calcium based)
**Dispersants - OLOA(R) 11000** (ashless)
**PPD - OLOA(R) 19800, OLOA(R) 19803**
**ZDTP - OLOA(R) 262, OLOA(R) 267, OLOA(R) 269R**

***Small Engines***
**2-Stroke Motorcycles, PWCs, and ATVs and Outdoor Power Equipment - OLOA(R) 9362 and OLOA(R) 9357** (TISI, API TC, JASO FA, FB, FC, ISO EGD)
**4-Stroke Motorcycle - OLOA(R) 9364J**
**NMMA TC-W3(TM) - OLOA(R) 340R** and **OLOA(R) 9333** (NMMA TC-W3,TC-WII and TCW), ashless
**NMMA FC-W(TM) - OLOA(R) 22001**

***Industrial Engine Oils***
**NGEO - OLOA(R) 1255** (Low-Ash, API CF), **OLOA(R) 1255M** (Medium-Ash), **OLOA(R) 1255Z** (for Cummins B/C Series engines, and Detroit Diesel Series 50 and Series 60 engines operated on CNG or LNG), **OLOA(R) 1238A** (Low-Ash), **OLOA(R) 1299** (Ashless), **OLOA(R) 1299W** (Ashless), **OLOA(R) 1259** (landfill or digester gas), **OLOA(R) 1259B** (landfill or digester gas). Although not common for economic reasons, Ashless and Low Ash NGEOs may be formulated with synthetic basestocks with acceptable performance

**RREO - OLOA(R) 2000** (LMOA Generation V and GE Generation IV Long-life), **OLOA(R) 2939** (LMOA Generation IV). Although not common for economic reasons, RREOs may be formulated with synthetic base stocks with acceptable performance for EMD type engine oils.

***Drive Line***
**THF - OLOA(R) 9727V. OLOA(R) 9725XV, OLOA(R) 20008 Cat TO-4M - OLOA(R) 9790**

***Industrial***
**AW Hydraulic series - OLOA(R) 4992, OLOA(R) 4994, and OLOA(R) 9740** (all ash-containing). Although not common for economic reasons, AWHOs may be formulated with synthetic base stocks with acceptable performance.

**Industrial Gear - OLOA(R) 9151XJ, OLOA(R) 9570** (Borate EP)

**Performance listed is not all-inclusive. Please contact your Oronite sales representative for further product information.**


- **Components: *Infineum C Series***
  - **Alkylates/Sulphonic Acids**
  - **Antifoamants/Demulsifiers/Rust, Corrosion Inhibitors**
  - **Antioxidants/Antiwear/Friction Modifiers**
  - **Detergents/Detergent Intermediates**
  - **Dispersants/Dispersant Intermediates, Derivatives**
- **Heavy Duty Diesel Oils: *Infineum D Series***
- **Passenger Car Motor Oils: *Infineum P Series***
- **Viscosity Modifiers and Pour Point Depressants: *Infineum SV and V Series***
- **Small Engine Lubricants: *Infineum S Series***
  - **2-Stroke Engine Oils**
  - **4-Stroke Engine Oils**
- **Marine/Large Engine Lubricants: *Infineum M Series***
  - **Aviation and Gas Engine Oils**
  - **Marine Engine Lubricants**
  - **Marine/Large Engine Lubricant Components**
  - **Railroad Engine Lubricants**
- **Industrial Products: *Infineum N Series, Synacto, Paratac, Vistone, Infineum G Series***
  - **Compressor Fluids**
  - **Industrial Components**
  - **Metalworking Fluids**
  - **Gear Oils**
- **Power Transmission Fluids: *Infineum T Series, Infineum G Series***
  - **Automatic Transmission Fluids**
  - **Gear Oils**

**Certain additives in these product families are formulated specifically for use in full synthetic applications. Contact your Infineum sales representative or call 800-654-1233 for details.**

| *Additive Name/Designation &* | *Use* | *Remarks* |
|---|---|---|
| ***Non-Toxic & Food Grade Lubricant Additives*** | | |
| **00861 Tackifier FG**– Food Grade Tackifier | | Industrial |
| **1505 FRIC-SHUN® FG** – Friction Modifier, Detergent, TBN Source | | Automotive & Industrial Use |
| **1605 Calciplex® FG** – Corrosion Inhibitor, Thickener Precursor, EP/AW | | Industrial |
| **1610 Calciplex® FG (synthetic)** – Corrosion Inhibitor, Thickener Precursor, EP/AW | | Industrial |
| ***Other Lubricant Additives*** | | |
| **27514 5% Calcium Lin-All®** – Corrosion & Rust Inhibitor | | Automotive & Industrial Use |
| **29335 22% Zinc Hex-Cem®** – Rust Inhibitor (EP in the presence of sulfur and phosphorus) | | Industrial |
| **802 10% Zinc Nap-All® Lube Grade** – Rust Inhibitor | | Industrial |
| **A00890 12% Zinc Nap-All®** – Rust Inhibitor | | Industrial |
| **A00887 14.5% Zinc Nap-All® E.P. R.G.** – Rust Inhibitor | | Industrial |
| **A00119 8% Copper Nap-All** ®– Anti-oxidant | | Automotive & Industrial Use |
| **G00857 E857 Tackifier LC** – Light-Color Grade, Tack Additive, VI Improver | | Industrial |
| **G00858 E858 Tackifier** – Tack Additive, VI Improver | | Industrial |
| **642 36% Lead Cem- All®** – Standard Grade; EP Additive, Rust Inhibitor | | Industrial |
| **310 20% Bismuth Ten-Cem®** – EP Additive | | Industrial |
| **315 16% Bismuth Ten-Cem®** – EP Additive | | Industrial |
| **320 28% Bismuth Hex-Cem®** – EP Additive | | Industrial |
| **322 14% Bismuth Nap-All®** – EP Additive | | Industrial |
| **962 15% Molybdenum Hex-Cem®** – Friction Modifier, AW Agent | | Industrial |
| **---- 14% Molybdenum Lin-All®** – Friction Modifier, AW Agent | | Industrial |
| **---- 10% Molybdenum Nap-All®** – Friction Modifier, AW Agent | | Industrial |

| *Additive Name/Designation &* | *Use* | *Remarks* |
|---|---|---|
| **Industrial Lubricant Additives** | | |
| **HiTEC®** 5200 Synthetic Compressor Oil Additive | | Contains Alkylated Naphthalene |

**Pilot Chemical**

| Product | Composition | Form/Activity | Application |
|---|---|---|---|
| **Aristonate S-4000** | Low Molecular Wt. Alkyl Aryl Sulfonate (MW=400) | Liquid / 60% | High performance emulsifier for oil systems |
| **Aristonate S-4300** | Medium Molecular Wt. Alkyl Aryl Sulfonate (MW=430) | Liquid / 60% | Good emulsifier. Good corrosion inhibition and reduced foam |
| **Aristonate S-4600** | High Molecular Wt. Alkyl Aryl Sulfonate (MW=460) | Liquid / 60% | Good emulsifier with enhanced corrosion inhibition and low foam profile |
| **Aristonate S-5000** | Very High Molecular Wt. Alkyl | Liquid / 60% | Good corrosion inhibition. Low foam profile and good emulsification |
| **Aristonate L** | Low Molecular Wt. Alkyl Aryl Aryl Sulfonate (MW=500) | Liquid / 60% | High performance emulsifier for soluble oils |
| **Aristonate M** | Medium Molecular Wt. Alkyl Aryl Sulfonate (MW=430) | Liquid / 60% | Offers emulsification along with corrosion protection |
| **Aristonate H** | High Molecular Wt. Alkyl Aryl Sulfonate (MW=470) | Liquid / 60% | Corrosion inhibitor with good emulsification performance |
| **Aristonate MME-60** | Monoethanolamine | Liquid / 60% | Emulsifier for industrial lubricants |
| | Sulfonate (MW=470) | | Particularly stable in the presence of boric acid amine corrosion inhibitors |
| **Aristonate VH-2** | Very High Molecular Wt. Alkyl | Liquid / 60% | Very strong corrosion inhibitor with good emulsification in soluble oils |
| **Aristonate C-5000** | Neutral Calcium Sulfonate | Liquid / 50% | High performance corrosion inhibitor and demulsifier |
| **Calamide F** | Oleic Diethanolamide | Liquid / 100% | Water soluble emulsifier |
| **Calamide C** | Coconut Diethanolamide | Liquid / 100% | Water soluble emulsifier |

**NA-LUBE AO** antioxidants
**NA-LUBE EP** extreme pressure agents
**NA SUL** rust & corrosion inhibitors
**K-CORR** rust & corrosion inhibitors
**KR-Series** alkylated naphthalenes
**NA-LUBE ADTC** multifunctional ashless dithiocarbamate

## Angus Chemical

| | |
|---|---|
| Neutralizers: | **CORRGUARD 95 and AEPD-85** amino alcohols |
| Corrosion/Staining Inhibitors: | **CORRGUARD SI** |
| Emulsifiers: | **ALKATERGE T-IV** ethoxylated oxazoline |

## Albemarle

| | |
|---|---|
| **ETHANOX 4702** | 4,4-Methylenebis (2, 6-di-tert-butylphenol) |
| **ETHANOX 4710** | 4,4-Methylenebis (2, 6-di-tert-butylphenol) non-dusting form |
| **ETHANOX 4716** | Transesterfied phenolic |
| **ETHANOX 4727J** | Multi-ring tert-butylphenolic, 30% active |
| **ETHANOX 4782J** | Multi-ring tert-butylphenolic, 53% active |

All the above are antioxidants used in synthetic gasoline engine oils (PCMO), diesel engine oils (HDDEO), hydraulic oils, turbine oils, other industrial lubricants, ATF fluids.

## INVISTA

**INVISTA Adi-pure®** adipic acid (hexanedioic acid) S
**Corfree®** corrosion inhibitors used I aqueous metalworking fluids M1, M2
**DDDA** and its dimethyl ester as a complexing agent for lithium complex greases, S
**DYTEK** intermediates that are multifunctional amine, nitrile, and boron building blocks

Notes, disclaimer, and copyright:

1. The above does not imply that these are the only additives that are available for blending synthetic lubricants. Upon requesting such from most additive companies, these are the ones that submitted their data to us, as "being suitable for blending synthetic lubricants". We have not confirmed this data.
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