



GST Advantage™ EP

High performance industrial gas and steam turbine oils

Product description

Texaco® GST Advantage EP are high performance oils, formulated with VARTECH® Technology, which is advanced chemistry combined with premium base oils and designed to inhibit varnish formation and help maintain peak performance, reliability and productivity.

GST Advantage EP oils are recommended for use in gas and steam turbines with and without loaded gearboxes.

Customer benefits

- Premium base oil technology in an ashless, zinc-free design offers oxidation stability and long service life at high temperatures
- High viscosity index helps ensure minimum viscosity change when variations in temperature occur
- Formulated for minimal sludge and varnish formation
- Offers rapid water separation and helps keep water in oil to a minimum
- Promotes rust and corrosion protection
- Designed for resistance to foam formation, helping prevent reservoir overflow
- Quick air release helps minimise pump cavitation in systems with high circulation rates and small reservoirs

Product highlights

- **Designed for long service life at high temperatures**
- **Helps minimise viscosity change at high temperatures**
- **Formulated for minimal sludge and varnish**
- **Offers rapid water separation**
- **Promotes rust and corrosion protection**
- **Aids resistance to foam formation**
- **Quick air release formulation**

Selected specification standards include:

Alstom	Ansaldo Energia
ANSI/AGMA	ASTM
British Standard	China National Standard
DIN	Doosan Skoda
GE Oil and Gas	GEC Alstom
General Electric	ISO
JIS	MAG Cincinnati Machine
MAN Energy Solutions	Mitsubishi Power
Siemens	Siemens Westinghouse
Solar	TGM Kanis Turbinen
Toshiba	

Applications

GST Advantage EP oils are designed to meet the critical lubrication demands of:

- Combined cycle turbines
- Large heavy duty industrial gas turbines
- Gas and steam turbines
- Hydraulic Turbines
- Rotating machinery in gas and steam combined-cycle cogeneration units
- They are recommended for many other industrial applications including hydraulic/controller liquids, turbo and process-gas screw compressor sets
- Bath and circulating systems supplying moderately loaded gear sets, low pressure hydraulic systems, vacuum pumps, rolling element bearings, machine tools, conveyors and electrical motors
- Air compressors, turbo-blowers and centrifugal pumps requiring a rust and oxidation inhibited anti-wear oil

Approvals, performance and suitable for use

Approvals

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|------------------------|---------------------------|
| • Ansaldo Energia | TG02-0171-E00000 (ISO 46) |
| • Siemens | TLV 9013 04 |
| • Siemens | TLV 9013 05 |
| • MAN Energy Solutions | 10000494596 |

Performance

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|---------------------------|-----------------------------------|
| • Alstom | HTGD 90117 |
| • Alstom | NBA P50001 A |
| • ASTM | D4304 Type I, II and III |
| • ASTM | D6158-HL |
| • ANSI/AGMA | 9005-F16-R&O |
| • ANSI/AGMA | 9005-F16-AS (ISO 32) |
| • British Standard | 489:1999 |
| • China National Standard | GB 11120-2011 L-TSA, Type A and B |
| • China National Standard | GB 11120-2011 L-TSE, Type A |
| • China National Standard | GB 11120-2011 L-TGA |
| • China National Standard | GB 11120-2011 L-TGE |
| • DIN | 51515/1 – 1:2010-02 TD |
| • DIN | 51515/2 – 1:2010-02 TG |

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| • DIN | 51524/1 |
| • Doosan Skoda | Tp 0010P |
| • GEC Alstom NBA | P50003A (ISO 32) |
| • Generic Electric | GEK 101941A (ISO 32) |
| • Generic Electric | GEK 107395A (ISO 32) |
| • Generic Electric | GEK 120498 (ISO 32) |
| • Generic Electric | GEK 27070 (ISO 32) |
| • Generic Electric | GEK 28143B |
| • General Electric | GEK 32568 (E to K) (ISO 32) |
| • Generic Electric | GEK 46506 d,e (ISO 32) |
| • GE Oil and Gas | ITN52220.02 |
| • GE Oil and Gas | ITN52220.03 |
| • ISO | 8068 AR, B |
| • ISO | 8068 L-TSA, TGA, TSE and TGE |
| • ISO | 11158 - HM |
| • JIS | K 2213 Type 2 |
| • Mitsubishi Power | MS04-MA-CL002 Rev. 4 |
| • MAG Cincinnati Machine | P-38 (ISO 32) |
| • MAG Cincinnati Machine | P-55 (ISO 46) |
| • Siemens | MAT 812101 (ISO 32) |
| • Siemens | MAT 812102 (ISO 46) |
| • Siemens | MAT 812106 (ISO 32) |
| • Siemens | MAT 812107 (ISO 46) |
| • Siemens | MAT 812108 (ISO 32) |
| • Siemens | MAT 812109 (ISO 46) |
| • Siemens-Westinghouse | PD-55125Z3 (ISO 32) |
| • Solar | ES 9-224 Class II |
| • Toshiba | LST-GMH-XUTW2-0005 (ISO 32) |
| • TGM-Kanis | WN000023 (for not geared turbines) |

Product maintenance and handling

Premium quality turbine oils must be capable of lubricating and cooling bearings while protecting the system against rust, corrosion and harmful deposits. Since turbine equipment is normally used in key applications, the reliability of the rotating machinery and its lubricant is critical.

Periodic monitoring of the oil in service is recommended to assure satisfactory performance of the turbine. The principal reasons for monitoring are two-fold:

Firstly to determine the condition of the used oil and secondly, to disclose environmental or operational problems within the equipment. The oil should be visually inspected by the operator at frequent intervals for contaminants and/or appearance changes. Refer to ASTM D4378 or OEM manuals for guidance on sampling and testing frequency. Samples should be taken from the discharge side of the oil pump while the system is circulating.

During service, effective purification of the lubricating oil is recommended for the removal of contaminants such as water and solids.

Care should be taken to ensure against top-up and/or contamination from other products, as this could reduce the performance characteristics of GST Advantage EP.

- Not intended for use in aviation-derivative gas turbines.
- Must not be used in breathing air compressors.
- 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.
- Avoid any spillage of used and unused product to the environment.
- Product residue and package/container should be disposed of in dedicated collection points.

Typical test data			
Test	Test Methods	Results	
Viscosity Grade		32	46
Shelf Life: 60 months from date of filling indicated on the product label			
Appearance	Visual	Bright and Clear	Bright and Clear
Colour	ASTM D1500	L0.5	L0.5
Kinematic Viscosity at 40°C, mm ² /s	ASTM D445	34.2	42.4
Viscosity Index	ASTM D2270	112	105
Density at 15°C, kg/l	ASTM D1298	0.859	0.865
Flash Point, °C	ASTM D92	226	234
Pour Point, °C	ASTM D97	-36	-34
FZG Load carrying capacity (load stage)	ASTM D 5182	10	10
Oxidation Stability - Hours to 2.0 mg KOH/g	ASTM D 943	>10000	>10000
RPVOT, min	ASTM D2272	2200	2100

The typical test data set out above does not constitute a specification. It is indicative only and can be affected by allowable production tolerances. Chevron may modify this test data. Modified data will supersede all previous data, so please ensure you refer to the latest version of this Product Data Sheet (PDS).

Disclaimer: Data provided in this Product Data Sheet (PDS) is based on standard tests under laboratory conditions and is indicative only. This product should not be used for any purpose other than those expressly set out in this PDS. The user has sole responsibility for verifying that this product is suitable for the user's intended application. Neither Chevron nor its subsidiaries (i) make any warranty or representation as to the accuracy or completeness of this PDS; and/or (ii) accept liability for any loss or damage suffered as a result of the use of this product other than in accordance with the terms of this PDS.

When disposing of used product, take care to protect the environment and follow local legislation.

Safety Data Sheets (SDS's) are available for all Chevron products. If you require a SDS or any further information regarding a Chevron product, please contact your local sales office or see www.texacolubricants.com.

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