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| Product | Sinopec L-TSA/LF Long Service Life Turbine Oil |
| Summary | <p>Product description</p> <p>Sinopec L-TSA/LF Long Service Life Turbine Oil is a line of products formulated with high-quality hydrogenated base oils and selective additives. Excellent oxidation stability properties, which reduce sludge and deposit formation, enable this product to be used as a long service life steam/gas turbine oil. Available in ISO viscosity grades 32, 46 and 68.</p> |

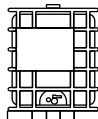
Available sizes



PAIL – 18L



DRUM – 200L



IBC – 1000L

Also available in bulk

Applications

Sinopec L-TSA/LF Long Service Life Turbine Oil is suitable for use in:

- Large supercritical-steam turbines used in power generation.
- Heavy-duty gas turbines.
- Large to moderate marine turbines.
- Industrial steam, gas and water turbines.
- Combined cycle turbines.

Features and benefits

- Perfect oxidation stability, inhibiting formation of sludge, ensuring smooth operation and extending oil service life.
- Excellent water separation properties ensure that any water contamination can be easily separated from the oil, protecting equipment against rusting and corrosion and extending oil life.
- Good air release properties protect against air entrainment, ensure optimum oil film thickness and protect equipment components from cavitation.
- Good antifoaming properties avoid the build up of foam, and reduce oil leakage from the system.
- Excellent anti-rust and corrosion prevention properties protect equipment from rusting and corrosion, and extend equipment life.

Product Data Sheet

Typical data

| Sinopec L-TSA/LF Long Service Life Turbine Oil | | | |
|---|----------------------|----------------------|----------------------|
| ISO viscosity grade | 32 | 46 | 68 |
| Kinematic viscosity of base oil, ASTM D 445 | | | |
| cSt @ 40°C | 33.21 | 45.15 | 64.29 |
| cSt @ 100°C | 6.086 | 7.185 | 8.866 |
| Viscosity index of base oil, ASTM D 2270 | 132 | 120 | 112 |
| Air release at 50°C, min, ASTM D 3427 | 1.7 | 3.5 | 5.5 |
| Foaming characteristics, sequences 1, 2 and 3, ASTM D 892 | 10/0 10/0 10/0 | 10/0 10/0 10/0 | 10/0 10/0 10/0 |
| Demulsibility @ 54°C, time to 3 ml emulsion, min, ASTM D 1401 | 8 | 10 | 10 |
| Neutralisation number, mg KOH/g, ASTM D 974 | 0.07 | 0.1 | 0.1 |
| Oxidation stability, time to 2 mg KOH/g, hours, ASTM D 943 | >10,000 | >10,000 | >10,000 |
| Oxidation stability, RPVOT @ 150°C, min, ASTM D 2772 | 1,200+ | 1,200+ | 1,200+ |
| Rust prevention, ASTM D 665 | | | |
| distilled water | pass | pass | pass |
| synthetic sea water | pass | pass | pass |
| Copper corrosion, 3 hours @ 100°C, ASTM D 130 | 1b | 1b | 1b |
| Pour point, °C, ASTM D 97 | -16 | -16 | -13 |
| Flash point (COC), °C, ASTM D 92 | 228 | 230 | 230 |
| Density @ 15°C, kg/l, ASTM D 4052 | 0.8417 | 0.8506 | 0.8641 |

These data are given as an indication of typical values and not as exact specifications.

Industry and OEM specifications

| Sinopec L-TSA/LF Long Service Life Turbine Oil meets the performance requirements of the following industry specifications: | |
|--|--------------------------|
| ASTM | 4304 Rev A Type I |
| ASTM | 4304 Rev A Type III |
| DIN | 51515 L-TD |
| DIN | 51515 L-TG |
| GB ¹ | 11120-2011 (L-TSA,L-TGA) |
| ISO | 8068(L-TSA,L-TGA) |
| JIS | K-2213 Type 2 w/add. |

¹ Note: 'GB' standards are the National Standards of the People's Republic of China.

Product Data Sheet

| Sinopec L-TSA/LF Long Service Life Turbine Oil meets the performance requirements of the following OEM specifications: | |
|---|--|
| Alstom Power | HTGD 90117 |
| GE | GEK-28143b |
| GE | GEK-32568j |
| GE | GEK-46506D |
| Siemens Power Generation | TLV 9013 04 |
| Siemens Power Generation | TLV 9013 05 |
| Siemens Industrial Turbomachinery AB | MAT 812101(ISO VG32), MA T812102(ISO VG46) |
| Ansaldo Energia | TGO2-0171-E00000/C |
| Sinopec L-TSA/LF Long Service Life Turbine Oil holds the following formal OEM approvals: | |
| Alstom Power | HTGD 90117 (ISO VG 46) |
| Siemens Power Generation | TLV 9013 04 (ISO VG 32/46) |
| Siemens Power Generation | TLV 9013 05 (ISO VG 32/46) |
| Ansaldo Energia | TGO2-0171-E00000/C (ISO VG 46) |

Accuracy of information

Data provided in this PDS is typical and subject to change as a result of continuing product research and development. The information given was correct at the time of printing. The typical values given are subject to variations in the testing procedures and the manufacturing process may also result in slight variations. Sinopec guarantees that its lubricants meet any industry and OEM specifications referred to on this data sheet.

Sinopec cannot be held responsible for any deterioration in the product due to incorrect storage or handling. Information on best practice is available from your local distributor.

Product and environmental safety

This product should not cause any health problems when used in the applications suggested and when the guidance provided in the Material Safety Data Sheet (MSDS) is followed. Please consult the MSDS for more detailed advice on handling; MSDSs are available from your local distributor. Do not use the product in applications other than those suggested.

As with all products, please take care to avoid environmental contamination when disposing of this product. Used oil should be sent for reclamation/recycling or, if not possible, must be disposed of according to relevant government/authority regulations.

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