# Product Data Sheet

NATIONAL™ TURBINE OILS | Industrial Fluids

## For non-geared gas, steam, and hydroelectric turbines

## Product Description

NATIONAL TURBINE OILS are formulated to provide superior oxidation stability, rust and corrosion protection, minimum foam, fast air release, rapid water separation and excellent thermal stability. These oils are designed to meet the demands of gas, steam, and hydroelectric turbine bearing lubrication.

NATIONAL TURBINE OILS combine highly refined Group II base oils and the highest ashless additive technology (Zn-free) to provide dependable turbine lubrication with trouble free performance.

## Industry and OEM Specifications[1]

- DIN 51524-1
- DIN 51515-1
- DIN 51515-2
- Solar Turbine ES 9-224W
- ANSI/AGMA 9005-E02-RO
- ISO 8068 L-TSA and L-TGA
- FIVES (formally MAG) P-38, P-54
- GEK 32568J
- GEK 46506E

NATIONAL TURBINE OILs meet or exceed Mitsubishi-Hitachi MS04-MA-CL002, Siemens TVL 901304/901305, and Alstom HTGD 90117 (for non-geared turbines).

## Features

- Outstanding Rust and Oxidation protection
- Fast air release minimizes pump cavitation in systems with high circulation rates
- Use as hydraulic fluid for systems not exceeding 1000 psi
- Ashless (Zn-free)
- Excellent thermal and oxidation stability that reduces the formation of deposits in reservoirs, high temperature bearings and other hot areas of the turbine
- Excellent water separation (demulsibility) that facilitates water removal

## Technical Data

***(typical values)***

| ISO GRADE | ASTM | 32 | 46 | 68 |
|---|---|---|---|---|
| Product Number | | 07-506032 | 07-506046 | 07-506068 |
| SDS Number | | S125 | S012 | S012 |
| Viscosity @ 40°C, cSt | D445 | 29.8 | 44.78 | 67.98 |
| Viscosity @ 100°C, cSt | D445 | 5.3 | 6.88 | 8.91 |
| Viscosity Index | D2770 | 111 | 109 | 105 |
| Specific Gravity @ 60°F | D4052 | 0.861 | 0.866 | 0.8714 |
| Pour Point, °C | D5950 | -45 | -39 | -36 |
| Flash Point, °C | D92 | 205 | 212 | 225 |
| Color ASTM | D1500 | L0.5 | L0.5 | L0.5 |
| Demulsibility | D2711 | 41-39-0 (10') | 40-40-0 (15') | 40-38-2 (10') |
| Foam characteristics, Seq. I | D892 | 20/0 | 0/0 | 0/0 |
| Seq. II | | 0/0 | 0/0 | 0/0 |
| Seq. III | | 0/0 | 0/0 | 0/0 |
| Oxidation Stability | D943 | 10,000 | 10,000 | >8,700 |
| Total Acid Number, mg KOH/g | D664 | 0.05 | 0.1 | 0.1 |
| Air Release, 50°C (mins) | D3427 | 0:45 | 1:41 | 3:48 |
| Rust Prevention | D665B | Pass | Pass | Pass |
| RPVOT (mins) | D2272 | 2510 | 2008 | 1161 |

1) *Consult your owner's manual regarding its suitability for use in equipment from other OEMs. These hydraulics perform in most equipment without concern for fluid-related harm.*

The recommended shelf life for these oils is typically 48 months from manufacturing date when stored properly in the original sealed containers.