



## PRODUCT DATA SHEET

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# NP TURBINE OIL R&O

### GENERAL

**NP Turbine Oil R&O** is a rust and oxidation inhibited oil and is ideally suited for the lubrication of high pressure steam turbines, governor hydraulic systems and other industrial applications where a lubricant with high oxidation stability is required.

**NP Turbine Oil R&O** is manufactured using refined hydro-treated base oils which are designed to provide outstanding lubricating properties such as high oxidation stability, low volatility and elevated flash/fire points. **NP Turbine Oil R&O** is formulated using a best-in-class additive package with a unique “**Stay-Clean Technology**” designed to impart the following qualities in the finished lubricants:

- Excellent thermal stability
- Unsurpassed Sludge & Varnish Control
- Outstanding oxidative stability
- Advanced Filterability & Water Separation
- Exceptional Demulsibility
- Low Foaming Tendency

### KEY BENEFITS:

The use of **NP Turbine Oil R&O with “Stay-Clean Technology”** would result in:

- Protection of bearings and other metallic parts against rust and corrosion (Oil was tested with both distilled water and synthetic seawater and passed both tests. Also achieved the highest rating for the copper corrosion test).
- Reduction in the formation of acidic products that can lead to corrosion.
- Reduces the formation of varnish, sludge and emulsions.
- Better oil circulation and functioning of governors and oil relays.
- Reduced loss of suction at the oil pump which is caused by entrained air with resulting loss of lubrication of critical components).
- Long service life.

### MAIN APPLICATIONS:

- High-speed turbines.
- Air compressors and blowers.
- Certain hydraulic systems where an anti-wear lubricant is not required.
- High speed gearing and oil lubricated bearings requiring a high quality R &O inhibited oil e.g. electric motor bearings.

### PERFORMANCE SPECIFICATIONS :

The **NP Turbine Oil R&O** range of lubricants meet or exceed the test requirements of:

- Cincinnati Milacron P-38, P-55, P-54 and P-57
- General Electric GEK-32568H, 46506E, 101941A, 107395A
- Solar Turbines ES9-224AW
- U.S. Military MIL-H-17672D
- DIN 51524, Part 1
- Hagglands Denison HF-1 & HF-0 Bench Tests



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### TYPICAL PROPERTIES

	TEST METHOD						
ISO Viscosity Grade	ISO 3448	32	46	68	100	150	220
Kin. Viscosity @ 40°C cSt	ASTM D445	32	46	68	100	150	220
Kin. Viscosity @ 100°C cSt	ASTM D445	5.38	6.72	8.65	11.20	14.60	18.60
Viscosity Index	ASTM D2270	101	98	98	97	96	94
Colour	ASTM D1500	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0
Pour Point°C	ASTM D97	-24	-24	-24	-21	-12	-12
Closed Flash Point °C	ASTM D93	200	204	210	214	218	218
Neutralization No.	ASTM D974	0.17	0.17	0.19	0.19	0.19	0.19
TOST Life Test (Hours to 2.0 TAN)	ASTM D943	>9500	>9500	>7500	>5000	>2250	1650
RPVOT	ASTM D2272	>1500	>1500	>1500	>1200	>700	>450
Rust Prevention							
Distilled Water	ASTM D665A	Pass	Pass	Pass	Pass	Pass	Pass
Synthetic Sea Water	ASTM D665B	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	ASTM D130	1A	1A	1A	1A	1A	1A
	ASTM D3422	2.0	2.0	2.0	2.0	2.0	2.0
Water Separation time in mins. (at 54°C)	ASTM D1401	5	5	10	-	-	-
(at 82°C)		-	-	-	5	5	5
Foaming Tendency/Stability	ASTM D892						
Stage 1 ml. @ 24°C		5/0	5/0	5/0	0/0	0/0	0/0
Stage 11 ml. @ 93.5°C		10/0	10/0	10/0	20/0	20/0	20/0
Stage 111 ml. @ 24°C after Stage 11		10/0	10/0	10/0	0/0	0/0	0/0

### HEALTH AND SAFETY

NP Turbine Oil R&O is unlikely to pose any health or safety hazards when used in the recommended applications, provided good standards of personal and industrial hygiene are observed. Please refer to Material Safety Data Sheet (MSDS) for further information.

Revision date 10/06/14