



# Shell Turbo Oil N 32

- Reliable Performance
- Ammonia applications

## Ammonia Compressor Lubricant

Shell Turbo N was developed specifically for the lubrication of turbo-compressors and associated steam turbines in demanding ammonia and synthesis gas applications, with a common lubricant oil system. Shell Turbo N has been developed to offer oxidative performance whilst maintaining inertness to the aggressive process gas

### DESIGNED TO MEET CHALLENGES

#### Performance, Features & Benefits

- **Resistant to reaction with ammonia**

The use of highly refined base oils and specific additives, resistant to attack by ammonia, minimizes the possibility of damaging oil soluble/insoluble ammonia compounds being formed in the lubricant. These could impair the reliable operation of bearings and seal oil systems.

- **Excellent Rust & Corrosion Protection**

Prevents the formation of rust and guards against onset of corrosion, ensuring protection for equipment during operation and during shut-downs.

- **Strong Control of Oxidation**

The use of inherently oxidatively stable base oils together with an effective inhibitor package provides high resistance to oxidative degradation. The result is extended oil life, minimising the formation of corrosive species, deposits and sludge, even when the oil is exposed to an aggressive process gas such as ammonia

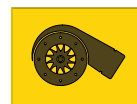
- **High Resistance to Foaming and Rapid Air Release**

The oils are formulated with an anti-foam additive, which generally controls foam formation. This feature coupled with fast air-release from the lubricant reduces the possibility of problems such as pump cavitation, excessive wear and premature oil oxidation.

- **Good Water-shedding properties**

Robust demulsibility control such that excess water, commonplace in steam turbines, can be drained easily from the lubrication system, minimizing corrosion and premature wear.

#### Main Applications



#### Specifications, Approvals & Recommendations

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

#### Compatibility & Miscibility

- **Seal Compatibility**

Shell Turbo N is compatible with all commonly used sealing materials designed for use with mineral oils.

- **Lubricant Compatibility**

Shell Turbo N is completely miscible with Shell Turbo T and Shell Turbo S4 products.

#### Typical Physical Characteristics

Properties		Method	Shell Turbo Oil N 32
ISO Viscosity Grade		ISO 3448	32
Colour	maximum	ASTM D1500	0.5
Kinematic Viscosity	@40°C mm <sup>2</sup> /s	ASTM D445	32
Kinematic Viscosity	@100°C mm <sup>2</sup> /s	ASTM D445	5.45
Viscosity Index		ASTM D2270	105
Density	15°C kg/m <sup>3</sup>	ASTM D4052	858
Flash Point	°C minimum	ASTM D92	200

Properties		Method	Shell Turbo Oil N 32
Total Acid Number	mg KOH/g maximum	ASTM D974	0.05
Pour Point	°C maximum	ASTM D5950	-33
Foaming Seq II	ml/ml	ASTM D892	20/0
Air Release	minutes	ASTM D3427	4
Water Separability	minutes	ASTM D1401	15
Copper Corrosion (3 hrs, 100°C rating)		ASTM D130	1b
Rust Test, Synthetic Sea Water		ASTM D665B	Pass
RPVOT	minutes minimum	ASTM D2272	750

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

### • Health and Safety

Shell Turbo N 32 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from <https://www.epc.shell.com/>

### • Protect the Environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

### • Advice

Advice on applications not covered here may be obtained from your Shell representative.