

# Product Data Sheet

## Mobil SHC 800 Series Synthetic Industrial Gas Turbine Lubricants

### Product Description

Mobil SHC 800 Series lubricants are superior quality lubricants intended for use in stationary industrial gas turbines. They are formulated from wax-free synthesised hydrocarbons and a unique additive system which provide outstanding low-temperature fluidity and excellent resistance to oxidation at high temperatures, well beyond the capabilities of premium quality mineral oils. This permits rapid circulation of the oil at start-up in low temperature conditions and resistance to thermal and oxidative degradation during the hot soaking period after shutdown, which could result in deposits that interfere with lubrication. Since low temperature fluidity and high viscosity index are inherent characteristics of the fluids, they do not change in service as a result of mechanical shearing or repeated cycling from low to high temperatures.

Mobil SHC 800 Series lubricants have high load-carrying ability and excellent anti-wear properties. They provide a high level of protection against rust and corrosion, and they possess good air release properties and resistance to foaming.

Mobil SHC 800 Series lubricants are fully compatible with mineral oils but admixture will detract from their superior performance properties.

### Benefits

Mobil SHC 800 Series lubricants provide the following benefits:

- Extremely high level of resistance to effects of heat soak-back after turbine shutdown
- Long change life due to outstanding thermal and oxidation stability minimising sludge formation and deposit build up
- Broad temperature application range
- Extended intervals between overhauls and lower maintenance costs
- Reliable flow and lubrication during cold starts, even at very low temperatures

### Applications

Mobil SHC 800 Series lubricants are recommended for the lubrication of gas turbines in industrial and commercial service, many used as standby power units.

In winter when power failures are more likely to occur, the turbine and lubricating system will usually be at low temperature. Under these conditions, conventional mineral oil based lubricants may not have adequate low temperature fluidity for rapid circulation at start-up.

During operation, temperatures in the system will reach normal values, but when the emergency is over and the unit shuts down, heat-soak back from the turbine may cause overheating of portions of the lubricating oil that do not drain completely from bearings and housings. In addition, thermal and oxidative degradation during the hot soaking period after shutdown may result in deposits that interfere with lubrication and necessitate maintenance. The low temperature fluidity of Mobil SHC 800 Series lubricants, combined with superior thermal and oxidation stability, helps to minimise these problems and permit improved reliability with reduced maintenance cost.

## Properties

Mobil SHC 800 Series lubricants are manufactured from Mobil's synthesised hydrocarbon base oils and a combination of additives designed to provide superior rust protection and oxidation stability. The synthesised hydrocarbons used as a base oil are chemically similar to mineral oils, and are fully compatible with them, but provide several advantages compared to mineral oils as a base for a gas turbine lubrication.

The SHC base oils have superior oxidation and thermal stability, high natural viscosity indices, low pour points, and excellent low temperature fluidity. The measured viscosity at low temperature is below that predicted by extrapolation on Viscosity /Temperature Chart. Since the high Viscosity Index and good low temperature fluidity are inherent characteristics of the fluid, these properties do not change in service as a result of mechanical shearing of repeated cycling from high to low temperatures.

Mobil SHC 800 Series lubricants also have good response to additives so their excellent oxidation stability is enhanced with selected inhibitors to a high level of resistance to foaming and good air release properties.

## Health and Safety

Based on available toxicological information, it has been determined that this product poses no significant health risk when used and handled properly.

Details on handling, as well as health and safety information, can be found in the Material Safety Data Bulletin which can be obtained through Mobil Oil Company Ltd., by telephoning 01372 22 2000.

Typical physical characteristics are given in the table. These are intended as a guide to industry and are not necessarily manufacturing or marketing specifications.

## Product Characteristics

Mobil SHC		824	825
	<b>Test Method</b>		
ISO VG		32	46
Viscosity, cSt at 40°C	ASTM D445	31	42
Viscosity, cSt at 100°C	ASTM D445	5.9	7.8
Viscosity Index	ASTM D2270	135	148
Specific Gravity	ASTM D1298	0.833	0.833
Flash Point, °C	ASTM D92	249	249
Pour Point, °C	ASTM D97	-54	-54
Rust Protection	ASTM D665		
Distilled Water		Pass	Pass
Synthetic Sea Water		Pass	Pass
Foam Test	ASTM D892		
Sequence I, II, III		0/0	0/0
Colour	ASTM D1500	5.5	5.5

Due to continual product research and development, the information contained herein is subject to change without notice

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