

# Shell MADRELA® Oil S

## High Performance Gas Compressor Lubricant

Shell MADRELA® Oil S is a premium quality fluid based on synthetic and severely hydroprocessed base oils and selected additives specially designed to meet the demanding needs of rotary and screw gas compressors.

---

### Performance Features and Benefits

- **“State-of-the art” complex fluid make-up**  
Shell MADRELA® Oil S compressor lubricant is formulated from a carefully selected blend of synthetic and mineral base oils. The mineral base oil portion is composed of severely hydroprocessed base oils. These premium base oils are blended with a customized additive chemistry, which offers excellent oxidative and thermal stability.
- **Outstanding oxidative and thermal stability**  
This customized additive system means Shell MADRELA® Oil S compressor lubricant offers good thermal stability, good demulsibility, good entrained air release properties and good cold weather performance.
- **Low oil consumption/carryover**  
Shell MADRELA® Oil S compressor lubricant offers good volatility characteristics, which lead to improved oil feed rates and vapor pressure, as well as reduced lubricant carryover.
- **Effectively minimizes deposit and varnish formation**  
Shell MADRELA® Oil S compressor lubricant provides excellent resistance to heat and oxidative breakdown that results in reduced sludge, varnish, lacquer and deposit formation on compressor components, as well as longer lubricant life.
- **Resists rust and corrosion**  
Shell MADRELA® Oil S compressor lubricant separates readily from water found in compressor systems. It protects against rust and corrosion, and is inhibited against foaming and air entrainment, to provide for maximum lubrication, ready separation from wet air in oil/air separators, and extended oil separator service intervals.
- **Excellent anti-wear performance**  
The additive system, including select anti-wear agents, provides for extended compressor life, and compatibility with all types of metals. Shell

MADRELA® Oil S compressor lubricant has a high viscosity index and a low pour point, which allows for its use in a wide range of ambient and operating temperature ranges.

### Main Applications

- Shell MADRELA® Oil S compressor lubricant is recommended for use in oil flooded rotary vane and screw type compressors. The outstanding oxidative stability of this fluid makes it ideal for rotary and screw compressors, where the lubricant is injected directly into the gas stream.
- The excellent lubricant life of Shell MADRELA® Oil S compressor lubricant makes it especially suitable for use in those applications where production schedules do not allow for frequent shutdowns for maintenance and oil changes, or where location or inaccessibility of equipment makes frequent oil changes difficult.
- Complex fluids like Shell MADRELA® Oil S compressor lubricant are also ideal for use in applications where straight mineral oils have previously shown a history of undesirable deposit problems.

Advice on applications not covered in this handbook may be obtained from your Shell representative.

### Shell MADRELA® Oil S Compressor Lubricant is recommended for compressing inert and hydrocarbon gases such as:

- |               |                  |
|---------------|------------------|
| - Natural Gas | - Isobutane      |
| - Methane     | - Argon          |
| - Helium      | - Synthetic Gas  |
| - Butane      | - Carbon Dioxide |
| - Propylene   | - Propane        |
| - Ethylene    | - Neon           |
| - Hydrogen    | - Air            |

## Handling and Safety Information

For information on the safe handling, storage, or use of this product, refer to its Material Safety Data Sheet at <http://www.epc.shell.com/>. If you are a Shell Distributor, please call 1+800-332-6457 for all of your service needs. All other customers please call 1+800-237-8645 for all of your service needs.

## Protect the Environment

Do not discharge into drains, soil, or water.

## Typical Physical Characteristics

Shell MADRELA® Oil S	Method	Typical Results	
Gravity, °API	ASTM D 287	34.3	
Specific Gravity @ 60°F(15.6°C)	ASTM D 1298	0.8534	
Viscosity	@ 40°C cSt	145	
	@ 100°C cSt	16.8	
Viscosity Index	ASTM D 2270	125	
Flash Point, °C(°F)	ASTM D 92	271(520)	
Pour Point, °C(°F)	ASTM D 97	-36(-33)	
Color	ASTM D 1500	0.5	
Total Acid Number, mg KOH/g	ASTM D 664	0.58	
Rotating Pressure Vessel Oxidation Life, Min @ 150°C	ASTM D 2272	540	
Rust Test	ASTM D 665B	Pass	
Demulsibility, min to 40/37/3 (ml oil/ml water/ml emulsion)	ASTM D 1401	30	
Foam Test, ml foam, (Tendency/Stability)	ASTM D 892	Sequence I	0/0
		Sequence II	10/0
		Sequence III	0/0
Four Ball Wear Test, scar diameter, mm	ASTM D 4172	0.34	

*These characteristics are typical of current production. While future production will conform to Shell specifications, variation in these characteristics may occur.*