Technical Data Sheet

Formerly Known As: **Shell Madrela T**

Shell **Gas Compressor Oil *S4 PV 190***

- Extra Performance
- Versatile Applications

Advanced Synthetic Gas Compressor Oil

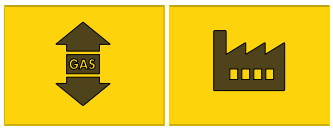
Shell Gas Compressor Oil S4 PV has been specially developed as a versatile cylinder lubricant for reciprocating compressors handling a range of hydrocarbon and other gases. It is based on polyalkylene glycol base fluids and is fully approved by leading gas compressor manufacturers.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Extended maintenance intervals**
  Shell Gas Compressor Oil S4 PV has reduced hydrocarbon gas solubility to provide reduced viscosity loss in comparison with mineral oil-based products, improving piston ring and packing lubrication and helping to extend service intervals, reducing maintenance and downtime costs.
- **Outstanding wear protection**
  The low hydrocarbon gas solubility and associated low viscosity loss results in retention of a stronger lubricant film on the cylinder wall, piston rings and packing components, delivering low levels of corrosion and cylinder wear.
- **Maintaining system efficiency**
  Lower cylinder feed rates are possible compared to conventional oil due to the higher levels of wear protection and lubrication provided improving reliability and reducing the oil carryover into the compressed gas.

Main Applications



- **Reciprocating gas compressors**
  Sump and lubrication systems of enclosed pattern compressors handling hydrocarbon and other gases where the crankcase and bearings operate in a gas atmosphere.
- **Labyrinth piston compressors**
  Labyrinth piston compressors do not require cylinder lubrication. Shell Gas Compressor Oil S4 PV is needed for the forced feed lubrication of the plain bearings (crankcase
- **Versatile gas compression applications**
  Shell Gas Compressor S4 PV is suitable for compressors handling the following gases:
  Methane; Butylene; Ethane; Butadiene; Ethylene; Vinyl Chloride Monomer (VCM); Propane; Propylene; Ammonia; Inert gases (dry); Butane.

Specifications, Approvals & Recommendations

- Shell Gas Compressor Oil S4 PV is approved by the following manufacturers of gas cargo and general service compressors:
- Burckhardt Compression A.G: approved for use in their K-type gas compressors for general LPG/LNG service and for ammonia, vinyl chloride monomer, butadiene etc. Meets Burckhardt Lubricating Oil Specification (VSB) 1001301.
- Linde A.G: approved for general service gas compression including ammonia, vinyl chloride monomer and butadiene.
- GreenField A.G. (Atlas Copco): approved for use in their trunk piston gas compressors with hydrocarbon, helium, argon, hydrogen, nitrogen and carbon dioxide gases.

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

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Compatibility & Miscibility

- **Seal Compatibility**

  Shell Gas Compressor Oil S4 PV may be used with most common seal and packing materials, including butyl, nitrile, neoprene and Viton seal materials. Care should be taken if the system is being converted from mineral oil to Shell Gas Compressor Oil S4 PV. Seals normally used in conjunction with mineral oils swell slightly in operation, whereas the same material tends to either remain unchanged or shrink slightly when using Shell Gas Compressor Oil S4 PV.

  Leakage could result from worn or damaged seals. Fitment of new seals is recommended on change-over

- **Change-over Procedure**

  Shell Gas Compressor Oil S4 PV contains polyalkylene glycols and is not compatible with mineral oils or most other synthetic lubricant types. Care should be taken when changing from such products to Shell Gas Compressor Oil S4 PV.

Typical Physical Characteristics

Properties			Method	Gas Comp Oil S4 PV 190
Kinematic Viscosity	@40°C	mm^2/s	ISO 3104	190
Kinematic Viscosity	@100°C	mm^2/s	ISO 3104	35
Viscosity Index			ISO 2909	234
Flash Point (COC)		°C	ISO 2592	>260
Pour Point		°C	ISO 3016	-36
Density	@15°C	kg/m^3	ISO 12185	1055

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 Gas Compressor Oil S4 PV 190 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 Material Safety Data Sheet, which can be obtained from http://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.