



Formerly Known As: **Shell Corena E**

Shell Gas Compressor Oil S3 PY 220

- Extra Performance
- Improved Efficiency

Special Application Ethylene Gas Compressor Oil

Shell Gas Compressor Oil S3 PY lubricants are high quality blends designed for total loss lubrication of the cylinders of reciprocating hypercompressors in the manufacture of low density polyethylene (LDPE), including LDPE used in special applications such as food, pharmaceuticals and cable insulation, and ethylene vinyl acetate (EVA). Low feed rates and high quality components help ensure minimal impact on production quality of the finished polymers.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Outstanding wear protection**

Shell Gas Compressor Oil S3 PY lubricants are formulated with an effective load carrying additive system to ensure protection of sliding components even at low feed rates.

- **Maintaining production efficiency**

Since hypercompressor cylinder lubricants are total loss systems, traces of the lubricant can appear in the finished LDPE and impact the suitability of the polymer for certain applications.

Shell Gas Compressor Oil S3 PY lubricants are formulated with medicinal white oil components that ensure suitability of the polymer for the widest range of polymer end uses, including pharmaceutical and food applications, thus providing operators with production flexibility.

Main Applications



- **Extreme high pressure hypercompressors**

Shell Gas Compressor Oils S3 PY lubricants have been in widespread use in hypercompressor applications for over 10 years.

The ISO 220 viscosity grade provides low feed rates for lower oil content in the end-polymer but requires the use of elevated temperature line heating.

The ISO 150 grade allows the use of cylinder feed systems with standard trace heating.

- **Food grade applications**

Shell Gas Compressor Oil S3 PY lubricants meet the requirements of the US FDA for incidental food contact.

- **Pharmaceutical grade applications**

The oils are suitable for use in manufacture of polymers for use in applications where they will be in contact with pharmaceuticals.

- **LDPE insulation**

Use of Shell Gas Compressor Oil S3 PY lubricants enable production of LDPE with good dielectric properties, suitable for cable insulation.

Specifications, Approvals & Recommendations

Shell Compressor Oil S3 PY lubricants have been tested by major OEMs for hypercompressors, such as Burckhardt Compression AG, Dresser-Rand and Nuovo Pignone, and approved for certain applications.

- FDA/USA 21 CFR 178.3570 for incidental food contact
- European Regulation 10/2011, for plastics used in food contact
- The base fluid meets the requirements of FDA/USA 21 CFR 178.3620 for medicinal white oils.

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

Compatibility & Miscibility

- **Seal Compatibility**

Shell Gas Compressor Oil S3 PY is compatible with all sealing materials commonly used in hypercompressors.

Typical Physical Characteristics

Properties			Method	Shell Gas Compressor Oil S3 PY 220
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	225
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	20.5
Density	@15°C	kg/m ³	ASTM D1298	874
Flash Point (COC)		°C minimum	ASTM D92	240
Pour Point		°C	ASTM D97	-12
Sulphated ash		% m maximum	DIN 51575	0.01
Neutralisation Value		mg KOH/g	ASTM D974	0.6

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 S3 PY 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.