

TECH DATA

SPX SYNTHETIC PAG

COMPRESSOR FLUIDS

INTRODUCTION

Petro-Canada's SPX Compressor Fluids are specially formulated synthetic lubricants which provide enhanced lubrication protection in high temperature and high pressure gas compressor operations. Unlike standard mineral oils, these polyalkylene glycol (PAG) synthetic lubricants have much lower gas solubility, which reduce viscosity dilution and greatly improves the separation of lubricant from the processed gas. Low ash content, high viscosity index, excellent lubricity and shear stability are additional benefits in selecting SPX 7100, 7000 and 7220 instead of standard mineral oils for flooded screw and reciprocating compressors in natural gas production and service.

FEATURES AND BENEFITS

Extends equipment life

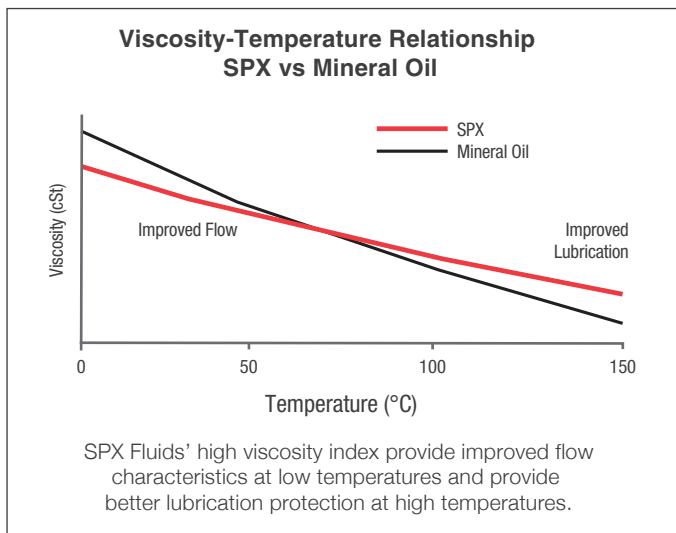
- Resists lubricant dilution by entrained hydrocarbons from process gases
- High viscosity index provides a stronger lubricant film over a wide range of temperatures

Helps to reduce frequency of expensive overhauls due to corrosion

- Protects equipment from corrosion due to water and/or sour gas contamination

Excellent low temperature properties

- Ensures smooth start-up in cold climates



APPLICATIONS

SCREW COMPRESSORS

SPX 7100 and SPX 7000 are used for flooded screw compressors in natural gas field booster service. They are widely used for applications involving harsh chemical environments and elevated temperatures where high resistance to hydrocarbon dilution is required.

SPX 7100 and SPX 7000 are recommended for:

Compression of hydrocarbon mixtures containing butane and other light hydrocarbon gases where the expected dilution by gases other than natural gas is greater than 10 wt%.

Sour natural gas and acid gas compression

- SPX 7100 and 7000 will dissolve high levels of water at temperatures below 70°C/158°F, helping to prevent corrosion during compressor shutdown.
- SPX 7100 is an ISO Viscosity Grade 100 and SPX 7000 is an ISO Viscosity Grade 150.

Petro-Canada Lubricants starts with the HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



RECIPROCATING COMPRESSORS

SPX 7100, SPX 7000 and SPX 7220 are available for force feed system, once through rod packing and cylinder lubrication in reciprocating compressors at high pressures. Due to its ideal viscosity profile, SPX 7100 is suitable both as a reciprocating compressor frame lubricant and as a once through rod/packing and cylinder lubricant. SPX 7100 also protects reciprocating compressor running gear surfaces from corrosion due to sour gas ingestion. Its use as a frame lubricant is for compressor models that allow use of a PAG fluid; it is recommended to confirm suitability with paints and seals used in your model of compressor. SPX 7100 is not

compatible with mineral or PAO based frame lubricants, so a flush would need to be performed before using SPX 7100 in a compressor frame.

SPX 7100, SPX 7000 and SPX 7220 are recommended for:

- Compression of heavy hydrocarbon and water contaminated natural gas streams
- Compression of dry Natural gas with CO₂
- Compression of dry Natural gas with H₂S
- SPX 7100 is an ISO viscosity grade 100, SPX 7000 is an ISO viscosity grade 150 and SPX 7220 is an ISO viscosity grade 220

TYPICAL PERFORMANCE DATA

Property	ASTM Test Method	SPX 7100	SPX 7000	SPX 7220
ISO grade		100	150	220
Appearance	Visual	Colourless-yellow	Colourless-yellow	Yellow
Density, kg/L at 15°C	D4052	1.04	1.06	1.06
Kinematic Viscosity, cSt @ 40°C cSt @ 100°C	D445	102 21	151 29	220 41
Viscosity Index	D2270	226	235	244
Flash point, COC, °C / °F	D92	249/480	268/514	240/464
Pour Point, °C / °F	D5950	-51/-60	-45/-49	45/-49
Foam control Seq. 1 Seq. 2 Seq. 3	D892	0/0 30/0 30/0	0/0 10/0 0/0	0/0 10/0 0/0
Copper Corrosion, 3h, 100°C	D130	1B	1B	1B
Rust Prevention	D665A	Pass	Pass	Pass
Specific Heat, BTU/(lb.°F) @ 38°C (100°F) BTU/(lb.°F) @ 93°C (200°F)		0.497 0.537	0.532 0.572	0.835 1.235
Thermal Conductivity, BTU/(hr.ft.°F) @ 38°C (100°F) BTU/(hr.ft.°F) @ 93°C (200°F)		0.123 0.113	0.129 0.119	0.123 0.113

The values quoted above are typical of normal production. They do not constitute a specification.

For more detailed recommendations on reciprocating cylinder packing lubrication for various gas stream components, contact Petro-Canada for TechBulletin TB-1105 Cylinder Packing Lube Oil Recommendations.

SPX Compressor Fluids should not be mixed with mineral oil based lubricants. To convert to an SPX Compressor Fluid, please contact a Petro-Canada Technical Services Advisor.

Learn more about us: lubricants.petro-canada.com

Contact us: lubecsr@petrocanadalsp.com

Committed to the disciplined operation of our business.



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