

Lubricants for Specialty Gas Compressors



What to Look for in a Specialty Gas Compressor Lubricant

Specialty gas compressors cover a variety of applications, so how do you know which lubricant to choose? It all starts with the gas composition.

Hydrocarbon Gas Applications

One of the key concerns in these applications is hydrocarbon gas dilution, which can affect the lubricant viscosity. Dilution varies based on gas stream, temperature, and pressure – which can make it difficult to choose the correct lubricant. CPI has proprietary software technology to estimate the expected gas dilution to narrow down the lubricant selection and approximate the working viscosity at the bearings.

Gas compositions vary depending on application, geography, etc. Some examples of components that may be found in a hydrocarbon gas application are:

- Methane, ethane, propane, etc.
- Ethylene, propylene, isobutylene, etc.
- Hydrogen sulfide (H₂S)
- Hydrogen, helium, nitrogen, carbon dioxide (CO₂), etc.
- Water

Process Gas Applications

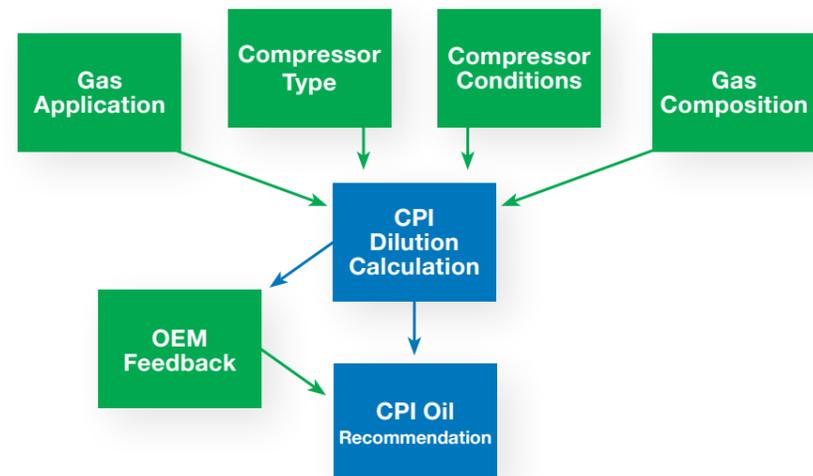
Process gases can be further broken down into two types – inert and reactive gases. In both cases, the concern is not with hydrocarbon dilution, but with the chemical reactivity of the gas with the lubricant. Downstream gas purity is critical to prevent catalyst poisoning and ensure continuous operation.

Example Reactive Gases

- Methyl chloride
- Ammonia
- Sulfur dioxide

Example Inert Gases

- Hydrogen
- Nitrogen
- Carbon Dioxide



Lubricants for Specialty Gas Compressors

CPI's line of specialty gas compressor lubricants offers a complete range of chemistries to meet the needs of your application and ensure the long-term performance of your equipment. We offer products for flooded rotary screw, reciprocating and centrifugal compressors.

Product	Viscosity Range	Process Gas	Hydrocarbon Gas	Base Oil	Description/Recommended Application
CPI®-1000	68-150	✓		HTMO	Chemically inert lubricants formulated with high quality hydrotreated, isodewaxed mineral oil. Recommended for use with inert or reactive process gas below 200°F.
CPI®-1005	46-150		✓	HTMO	Chemically inert lubricants formulated with additives for hydrogen sulfide (H ₂ S) corrosion protection. Recommended for use in sour natural gas applications below 200°F.
CPI®-1010	100		✓	HTMO	Hydrotreated, isodewaxed mineral oil based lubricants with excellent corrosion protection. Recommended for use in light, sweet gas applications below 200°F.
CPI®-1025	150	✓	✓	HTMO	Chemically inert lubricant formulated with an excellent corrosion protection additive package designed specifically for use where hydrogen sulfide (H ₂ S) and carbon dioxide (CO ₂) are present. Offers additional protection against standstill corrosion.
CPI®-9140-SG	SAE 40	✓		HTMO	Hydrotreated, isodewaxed mineral oil based lubricant with a premium low-ash additive package with proven performance in natural gas compression, well gathering, power generation, combined heat and power, and cogeneration applications.
CPI®-4600	10-220	✓		PAO	Chemically inert polyalphaolefin based lubricants. Recommended for use with inert gases above 200°F.
CPI®-4601	32-150	✓	✓	PAO	Polyalphaolefin based lubricants with excellent corrosion and oxidation protection. Recommended for use in light, sweet gas applications and inert or reactive gases with oxidizers present.
CPI®-4624-F	46-100	✓		PAO	NSF H1 registered polyalphaolefin lubricants with excellent oxidation stability. Recommended for use in CO ₂ compression applications and other inert or reactive gas applications with oxidizers present.
CPI®-6000	68-100	✓		PAO	Custom blended chemically inert polyalphaolefin based lubricants. Recommended for use in reactive gas applications over 200°F.
CPI®-6005	68-220	✓	✓	PAO	Polyalphaolefin based lubricants formulated with additives for hydrogen sulfide (H ₂ S) corrosion protection. Recommended for use in sour natural gas applications above 200°F.
CPI®-6025	100	✓	✓	PAO	Chemically inert lubricant formulated with an excellent corrosion protection additive package designed specifically for use where hydrogen sulfide (H ₂ S) and carbon dioxide (CO ₂) are present. Offers additional protection against standstill corrosion.
CPI®-1516	68-150		✓	WI PAG	Polyalkylene glycol based lubricants with excellent protection against yellow metal staining. Recommended for use in propane refrigeration and other light, sweet natural gas applications.
CPI®-1519	100-220	✓	✓	WS PAG	Polyalkylene glycol based lubricants with hydrogen sulfide (H ₂ S) corrosion protection and limited dilution with hydrocarbon gases. Recommended for use in heavy, sour gas applications.
CPI®-1507	68-150		✓	PEG	Polyethylene glycol based lubricants that resist hydrocarbon dilution. Recommended for use in heavy, sweet gas applications.
CPI®-1508	68-150		✓	PEG	Polyethylene glycol based lubricants that resist hydrocarbon dilution and hydrogen sulfide (H ₂ S) corrosion protection. Recommended for use in heavy, sour gas applications.
CPI®-1509	25		✓	PEG	Polyethylene glycol based lubricant barrier fluid for use with CPI®-1507 and CPI®-1508 series



The Americas

The Lubrizol Corporation
2300 James Savage Road
Midland, MI 48642, USA

Telephone: +1 989 496 3780
Email: sales@cpifluideng.com



Europe, Middle East & Africa

Lubrizol Limited
The Knowle, Nether Lane
Hazelwood, Derby, DE56 4AN, UK

Telephone: +44 1332 842211
Email: euafricamesales@cpifluideng.com



Asia-Pacific

Lubrizol Southeast Asia (Pte) Ltd
44 Tanjung Penjuru
Singapore 609032

Telephone: + 65 w66638 684
Email: asiasales@cpifluideng.com



Beijing Branch

Lubrizol Management (Shanghai) Co., Ltd.
Beijing Branch
Unit 2001 GrandyVic Building
No. 16 Taiyanggong Mid Rd
Chaoyang District, Beijing 100028, PRC

Telephone: +86 10 5931 5888
Email: asiasales@cpifluideng.com



Pudong Office

Lubrizol Management (Shanghai) Co., Ltd.
6F, Building C, The New Bund World Trade Center
Lane 227 Dongyu Road, Pudong New District
Shanghai 200126 PRC

Telephone: +86 21 3866 0366
Email: asiasales@cpifluideng.com



Guangzhou Office

Lubrizol Management (Shanghai) Co., Ltd.
Guangzhou Branch
Room 2505-2506, Yian Plaza
33 JianShe Liu Road
Guangzhou 510060, PRC

Telephone: +86 20 8363 4433
Email: asiasales@cpifluideng.com



India Office

Lubrizol Advance Materials India Pvt. Ltd.
Application and Business Center
6th and 7th Floor, Jaswanti Landmark
Mehra Industrial Estate,
LBS Marg, Vikhroli,
Mumbai 400079, India

Telephone: +91 22 6602 7800
Email: asiasales@cpifluideng.com

CPI Spectrum of Solutions

CPI Fluid Engineering offers a full spectrum of compressor lubricants and industrial fluids designed to meet the demands of a wide variety of applications. Learn more about all of our solutions at www.cpifluideng.com.



Hydraulic Oils



Turbine Oils



Gear Oils



Gas Compression



Refrigeration/AC



Chain Oils



Air Compression



Vacuum Pump Oils



Ammonia Refrigeration



Food Grade Lubricants



Industrial Refrigeration



Auto Air Conditioning



Thermal Management



Propane Refrigeration

