Mobil Rarus™ PE Series

Mobil Industrial , Belgium

Ethylene compressor oil

Product Description

Mobil Rarus™ PE R-A, R-B, R-C and R-D 220 are viscous, colourless oils of ISO viscosity grade 220, specifically designed for the lubrication of very high pressure ethylene compressors. They are based on high purity, saturated hydrocarbon oils (white oils), supplemented with friction reducing and free-radical trap additives at adapted treat levels.

In the production of polyethylene, high-speed reciprocating compressors are used to compress ethylene gas to high pressures up to 3000bar. In these applications, the compressor lubricant can come in contact with the polyethylene in the polymerization process. Under these circumstances, the lubricating oil required must be of acceptable purity and be known not to modify the properties of the polyethylene.

Mobil Rarus PE R-A, R-B, R-C and R-D 220 provides good lubrication of the compressor cylinders and are compatible with the polyethylene process. They can be used to produce polyethylene where food contact can occur such as in food packaging. Mobil Rarus PE R-A, R-B, R-C and R-D 220 have good thermal and chemical stability. They can be used up to 3000 bars, according to injection system and temperature. Reactive gas components and impurities may react into the compressor itself, with formation of sludge, which may lead to lubrication failure. This is prevented by the additives, which also reduce bushing wear.

Mobil Rarus PE R-A 220 is recommended with highly reactive gas components.

Mobil Rarus PE R-B 220 is recommended for low reactivity impurities. Its additives display low volatility and migration. It is well suited for applications where there is fatty food contact

Mobil Rarus PE R-C 220 is recommended for intermediate reactivity gases.

Mobil Rarus PE R-D 220 is recommended for specific highly severe, high pressure applications.

Features and Benefits

Mobil Rarus PE R-A, R-B, R-C and R-D 220 are specifically engineered to help provide long and trouble-free compressor performance. Mobil Rarus PE R-A, R-B, R-C, and R-D 220 products are NSF H1 registered for food machinery "Lubricants for Incidental Contact with Food", and meet the requirements for lubricants with incidental food contact (FDA 21 CFR 178.3570) and processing aids used in the production of olefin polymers intended for use in contact with food (FDA 21 CFR 177.1520)

Mobil Rarus PE R-A, R-B, R-C and R-D 220 compressor oils offer the following benefits:

- Suitable for applications where they can come in contact with food
- High purity levels so that they will not modify properties of polyethylene
- Excellent cylinder lubricant helping to prolong compressor life
- Good thermal and chemical stability resulting in lower deposits and longer oil life

Features	Advantages and Potential Benefits
High neutrality and low reactivity components	Do not interfere with catalytic polymerization reactions
High purity components	Do not induce any discolouration or odor in the final polymer

Features	Advantages and Potential Benefits
Components approved for food contact	Suitable for the manufacture of polymers for food packaging
Low polarity	Suitable in the manufacture of polymers for electrical insulation and thin bags (plastic bags)
Premium quality products	Reduced maintenance shutdowns

Applications

Mobil Rarus PE R-A, R-B, R-C and R-D 220 have the following applications:

- High pressure ethylene compressors
- Compressors used in the production of polyethylene used in food contact applications

Specifications and Approvals

This product is registered to the requirements of:	R-A 220	R-B 220	R-C 220	R-D 220
NSF H1	X	X	X	X

This product meets or exceeds the requirements of:	R-A 220	R-B 220	R-C 220	R-D 220
Burckhardt VSB 1001180	X		X	
FDA 21 CFR 177.1520	X	X	X	X
FDA 21 CFR 178.3570	X	X	X	X

Properties and Specifications

Property	R-A 220	R-B 220	R-C 220	R-D 220
Grade	ISO 220	ISO 220	ISO 220	ISO 220
Acid Number, mgKOH/g, ASTM D974	6.1	6.1	6.1	
Density @ 15 C, kg/l, ASTM D4052	0.878	0.874	0.876	0.872
Flash Point, Cleveland Open Cup, °C, ASTM D92	210	210	210	200
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	220	226	226	220
Pour Point, °C, ASTM D97	- 12 max	- 12 max	- 12 max	- 12 max
Saybolt Color, ASTM D156	+21 min	+24 min	+24 min	+24 min
Water Content, mg/kg, ASTM D6304	50	50	50	

Health and Safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims

/psims.aspx

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09-2021
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