Mobil

# Mobil SHC™ Polyrex Series

Mobil Grease , Norway

High Temperature Synthetic Polyurea Greases

## Product Description

The Mobil SHC™ Polyrex series of greases are specifically designed to improve your productivity by solving high temperature lubrication problems in both general industry and food processing applications. Developed using advanced Polyurea technology, these synthetic, polymer-enhanced greases bring a high temperature solution to the market while carrying a full NSF H1 registration.

The Mobil SHC Polyrex Series of greases are designed to offer a combination of high temperature performance, excellent water resistance, and the balanced wear performance consistent with Mobil grease products. Using advanced Polyurea thickener technology, ExxonMobil researchers developed a unique combination of synthetic oils that achieve excellent high temperature performance able to provide lubrication up to 170°C. Even at these extreme temperatures, Mobil SHC Polyrex resists oxidation and loss of structural stability allowing re-lubrication intervals to be extended while maintaining equipment protection. The carefully balanced combination of thickener, base oils, and additives yields a grease with excellent load carrying capabilities and rust protection. Mobil SHC Polyrex is also highly resistant to water and has excellent corrosion protection providing added protection to equipment in wet, humid environments and applications where water wash downs are frequent.

All Mobil SHC Polyrex greases are NSF H1 registered and also comply with Title 21 CFR 178.3570 by the Food and Drug Administration (USA) for lubricants with incidental food contact. Additionally, they meet the requirements of Kosher. Mobil SHC Polyrex Greases are manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels of product integrity are maintained.

## Features and Benefits

The Mobil brand of oils and greases is recognized around the world for its innovation and outstanding performance. Mobil SHC Polyrex utilizes the advanced thickener technology of the Mobil Polyrex family of greases to deliver a high performance, problem solving product for some of industries' toughest lubrication problems. Mobil SHC Polyrex brings that performance to another level through the addition of a unique combination of synthetic oils, polymer enhancement and a balanced additive package that is geared to deliver solutions to tough lubrication problems.

| Features | Advantages and Potential Benefits |
|---|---|
| NSF H1 registered lubricants | Allows use in food and beverage packaging and processing applications |
| Manufactured in facilities registered to ISO 21469 | Product integrity assurance through independent verification. |
| Outstanding high temperature performance, up to 170°C | Helps provide protection under harsh conditions and allows for extended re-lubrication or maintenance intervals. |
| Excellent load carrying capability | Helps reduce bearing wear under heavy loads |
| Excellent Water Resistance and corrosion protection | Helps reduce lubricant consumption and increase bearing protection where water wash downs are common.Helps reduce rust and corrosion extends equipment life |

## Applications

Application Considerations: While Mobil SHC Polyrex Series greases are compatible with many Polyurea and lithium complex greases, admixture may detract from their performance. Consequently it is recommended that before changing a system to one of the Mobil SHC Polyrex greases, it should be thoroughly cleaned out to achieve the maximum performance benefits. While the Mobil SHC Polyrex greases share many performance benefits, their applications are best described in terms of each product grade:

- Mobil SHC Polyrex 005 is an NLGI 00 grade grease specifically designed for use in central grease systems. The enhanced pumpability and low

temperature mobility make it an ideal choice for grease systems subject to low ambient temperatures, such as those found in food processing freezers or in outdoor applications. Mobil SHC Polyrex 005 may also be used for the lubrication of enclosed gears where oil leakage may be a concern. The recommended operating temperature range for this product is –30 to 170° C.

- Mobil SHC Polyrex 221 is a multi-purpose, NLGI 1 grade grease specifically designed for use in heavy-duty plain and anti friction bearings. Mobil SHC Polyrex 221 has a recommended operating temperature range of -30° C to 170° C.

- Mobil SHC Polyrex 222 is a multi-purpose, NLGI 2 grease recommended for heavy-duty plain and anti friction bearings. Mobil SHC Polyrex 222 has a recommended operating temperature range of -30° C to 170° C.

- Mobil SHC Polyrex 462 is an NLGI 2 Grade grease recommended for heavily loaded plain and anti-friction bearings. It is also recommended for bearings where extreme temperatures are a concern, such as steam heated rolls, exhaust fan bearings, felt roll bearings, and oven conveyor bearings. The recommended operating temperature range is -20° C to 170° C.

## Specifications and Approvals

| This product has the following approvals: | MOBIL SHC POLYREX 005 | MOBIL SHC POLYREX 221 | MOBIL SHC POLYREX 222 | MOBIL SHC POLYREX 462 |
|---|---|---|---|---|
| Kosher & Parve | X | X | X | X |

| This product is registered to the requirements of: | MOBIL SHC POLYREX 005 | MOBIL SHC POLYREX 221 | MOBIL SHC POLYREX 222 | MOBIL SHC POLYREX 462 |
|---|---|---|---|---|
| NSF H1 | X | X | X | X |

| This product meets or exceeds the requirements of: | MOBIL SHC POLYREX 005 | MOBIL SHC POLYREX 221 | MOBIL SHC POLYREX 222 | MOBIL SHC POLYREX 462 |
|---|---|---|---|---|
| DIN 51825:2004-06 - KPF HC 1 P -30 | | X | | |
| DIN 51825:2004-06 - KPF HC 2 P -20 | | | | X |
| DIN 51825:2004-06 - KPF HC 2 P -30 | | | X | |
| DIN 51826:2005-01 - GPF HC 00 K -30 | X | | | |
| FDA 21 CFR 178.3570 | X | X | X | X |

Properties and Specifications

| Property | MOBIL SHC POLYREX 005 | MOBIL SHC POLYREX 221 | MOBIL SHC POLYREX 222 | MOBIL SHC POLYREX 462 |
|---|---|---|---|---|
| Grade | NLGI 00 | NLGI 1 | NLGI 2 | NLGI 2 |
| Thickener Type | Polyurea | Polyurea | Polyurea | Polyurea |
| Color, Visual | White | White | White | White |
| Corrosion Prevention, Rating, ASTM D1743 | Pass | Pass | Pass | Pass |
| Dropping Point, °C, ASTM D2265 | 260 | 270 | 260 | 270 |

| Property | MOBIL SHC POLYREX 005 | MOBIL SHC POLYREX 221 | MOBIL SHC POLYREX 222 | MOBIL SHC POLYREX 462 |
|---|---|---|---|---|
| FAG Roller Bearing Grease Test FE9, Shielded, 1500N, 6000 rpm, 160 C, L50 hrs, DIN 51821 Variation B | | 200 | >350 | >350 |
| Four-Ball Extreme Pressure Test, Weld Point, kgf, ASTM D2596 | 400 | 400 | 400 | 400 |
| Four-Ball Wear Test, Scar Diameter, mm, ASTM D2266 | 0.45 | 0.45 | 0.45 | 0.45 |
| Grease Mobility, -18 C, g/min, US Steel DM-43 | 40 | 30 | 18 | 7 |
| Penetration, 60X, 0.1 mm, ASTM D217 | 415 | 325 | 280 | 280 |
| SKF Emcor Rust Test, Distilled Water, Rating, ASTM D6138 | 0,0 | 0,0 | 0,0 | 0,0 |
| Viscosity @ 100 C, Base Oil, mm2/s, ASTM D445 | 30 | 30 | 30 | 40 |
| Viscosity @ 40 C, Base Oil, mm2/s, ASTM D445 | 220 | 220 | 220 | 460 |
| Viscosity Index, ASTM D2270 | 177 | 177 | 177 | 134 |
| Water Sprayoff, Loss, %, ASTM D4049 | | | 28 | 30 |
| Water Washout, Loss @ 79 C, wt%, ASTM D1264 | 37 | 7 | 7 | 5 |

## 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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05-2023
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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com
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