Mobil

Mobil SHC Cibus™ Series

High Performance NSF H1 Registered Lubricants for Food Machinery

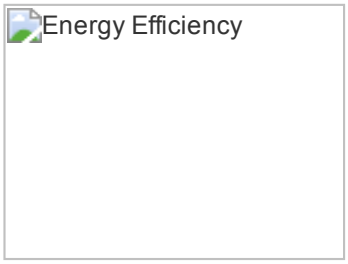
Product Description

Mobil SHC Cibus™ Series lubricants are outstanding performance hydraulic, compressor, gear and bearing oils designed to provide outstanding equipment protection, long oil life and problem-free operation in the food and beverage processing and packaging industries. They are formulated from FDA and NSF registered hydrocarbon base fluids and additives. The combination of the naturally high viscosity index and the proprietary additive system enables the Mobil SHC Cibus series lubricants to provide outstanding performance in a wide range of service applications at high and low temperatures, high loading and in areas of high wash-down well beyond the capabilities of typical mineral oils.

Mobil SHC Cibus lubricants are NSF H1 registered lubricants and also comply with Title 21 CFR 178.3570 by the Food and Drug Administration (USA) for lubricants with incidental food contact. Also, the Mobil SHC Cibus Lubricants 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. They are also suitable for Kosher and Halal food preparation for multi faith applications and to offer processing engineers maximum flexibility during operations. The products are pale in color with low odour and are formulated to be free of animal derived materials and allergens from nuts, wheat or gluten.

The Mobil SHC Cibus Series products have low traction coefficients, derived from the molecular structure of the base stocks used. This results in low fluid friction in the load zone of non-conforming surfaces. Low fluid friction produces lower operating temperatures and improved equipment efficiency, which potentially translates into reduced power consumption. The carefully engineered products also help to extend the service life of machinery components and allow for more economical equipment design. Moreover, the additive system used in these oils has been selected to provide good wear protection, excellent oxidation stability, protection against rust and corrosion even in moist environments and provide good system cleanliness. The Mobil SHC Cibus Series oils are also compatible with seals and other construction materials used in equipment normally lubricated with mineral oils.

The Mobil SHC Cibus Series oils can be used as hydraulic, gear, bearing and circulating oils in all areas within the food processing plant and can be included as part of a HACCP plan. The products meet the most rigorous performance requirements of a range of component manufacturers using various multi-metallurgy designs that help allow a single product series to lubricate effectively. Because they offer productivity and NSF H1 registration benefits, the Mobil SHC Cibus products can be used both above and below the processing line to reduce inventory costs and reduce the risks of non H1 registered lubricants being dispensed in high contamination risk areas.



Through outstanding traction properties, Mobil SHC Cibus Series lubricants have demonstrated the potential to provide significant energy savings — 3.6% in gear applications* and 3.5% in hydraulic applications** — versus conventional oils in statistically validated field and laboratory tests.

*Energy efficiency relates solely to the fluid performance when compared to conventional (mineral) reference oils of the same viscosity grade in circulating and gear applications. The technology used allows up to 3.6% efficiency compared to the reference when tested in a worm gearbox under controlled conditions. Efficiency improvements will vary based on operating conditions and applications.

**Energy efficiency relates solely to the fluid performance when compared to Mobil DTE™ 25. The technology used provides

up to 3.5% efficiency compared to the reference when tested in an Eaton 25VMQ vane pump under controlled conditions. Efficiency improvements will vary based on operating conditions and applications.

Features and Benefits

The Mobil SHC brand of lubricants is recognised and appreciated around the world for innovation and outstanding performance. These molecular designed products based on synthetic materials symbolise the continuing commitment to use advanced technology to provide outstanding lubricant products. Not least among the benefits is the potential for efficiency improvements compared to mineral oils.

The Mobil SHC Cibus Series oils offer the following features and potential benefits.

Features	Advantages and Potential Benefits
NSF H1 registered lubricants	Allows use in food and beverage packaging and processing applications
Manufactured in facilities that are ISO 22000 certified and registered to ISO 21469	Product integrity assurance through independent verification.
High viscosity index	Maintains viscosity and film thickness at high temperatures to help protect equipment
	Exceptional low temperature performance, including low power consumption at start-up
High load carrying capability	Helps protect equipment and extend life
	Minimizes unexpected downtime and extends service periods
Good seal compatibility	Helps reduce potential oil leakage
Excellent oxidation stability	Provides long oil and helps extend equipment life
Excellent water separation and good corrosion protection	Helps prevent internal systems from corrosion even where large quantities of water are present
	Maintains lubrication performance even after high pressure wash downs
Meets a wide range of equipment requirements	Multi-service applications - One product can replace several
	Helps minimize inventory requirements and reduces potential for product misapplication
Low traction coefficient	Reduces overall friction and can increase efficiency in sliding mechanisms, with potential for reduced power consumption and lower steady-state operating temperatures

Applications

Handling and Storage Recommendations
It is recommended that Mobil SHC Cibus lubricants should be stored inside and segregated from other non NSF H1 lubricants. Ideally, they should be stored in a clearly signed, separate, designated inside area. Drums and pails should not be stacked below or above other non NSF H1 lubricants. New packaging should be free from damage with an unbroken seal. Record the delivery date, batch number and expiration date. Record the date of initial seal breakage and use the contents in time by suitable stock rotation. Close all package openings after use. Do not replace unused oil in the container. Use clearly labeled dedicated equipment for internal transportation. Label machinery with the name of the correct NSF H1 lubricant where appropriate.

Lubricant Changeover
While the Mobil SHC Cibus Series may be physically compatible with other NSF H1 or non NSF H1 registered mineral oil based products, a mixture may detract from their performance and also from their registration status. Consequently it is recommended that before changing systems from non H1 lubricants to the Mobil SHC Cibus Series, or even for brand new equipment, the system should be thoroughly cleaned out and flushed to achieve the maximum performance benefits and to comply with H1 registration.

Applications

Mobil SHC Cibus Series lubricants are recommended for use in a wide variety of hydraulic, compressor, gear and bearing applications within food and beverage processing, packaging and pharmaceuticals. The products are effective in many applications including those where maintenance costs of component replacement, system cleaning and lubricant changes are high.

- Mobil SHC Cibus 32, 46 and 68 are high performance fluids intended for hydraulic, circulating, compressor and vacuum pump applications

- Mobil SHC Cibus 100, 150, 220, 320 and 460 are intended for gear, bearing and circulating systems

A suitable used oil analysis program, such as Signum from ExxonMobil, can help monitor the concentration of wear metals and provide information on appropriate actions.

Incidental Food Contact Only per FDA 21CFR 178.3570
Mobil SHC Cibus series lubricants are registered to the requirements of NSF H1 for incidental food contact only which means a limitation of 10ppm oil in food product per FDA 21CFR 178.3570. They are not to be used as direct food contact lubricants.

Specifications and Approvals

Mobil SHC Cibus Series meets or exceeds the requirements of:	Mobil SHC Cibus 32	Mobil SHC Cibus 46	Mobil SHC Cibus 68	Mobil SHC Cibus 100	Mobil SHC Cibus 150	Mobil SHC Cibus 220	Mobil SHC Cibus 320	Mobil SHC Cibus 460
FDA 21 CFR 178.3570	X	X	X	X	X	X	X	X
DIN 51506: 1985-09	X	X	X	X				
DIN 51517-2: 2009-06				X				
DIN 51517-3: 2011-08					X	X	X	X
DIN 51524-2: 2006-09	X	X	X	X				

Mobil SHC Cibus Series meets performance test requirements of:	Mobil SHC Cibus 32	Mobil SHC Cibus 46	Mobil SHC Cibus 68	Mobil SHC Cibus 100	Mobil SHC Cibus 150	Mobil SHC Cibus 220	Mobil SHC Cibus 320	Mobil SHC Cibus 460
DIN 51506: 1985-09	X	X	X	X				

Mobil SHC Cibus Series is registered to the requirements of:	Mobil SHC Cibus 32	Mobil SHC Cibus 46	Mobil SHC Cibus 68	Mobil SHC Cibus 100	Mobil SHC Cibus 150	Mobil SHC Cibus 220	Mobil SHC Cibus 320	Mobil SHC Cibus 460
NSF H1	X	X	X	X	X	X	X	X
NSF Registration Number	141500	141498	141499	145255	141502	141503	141505	141501
Kosher	X	X	X	X	X	X	X	X
Halal	X	X	X	X	X	X	X	X

Typical Properties

	Mobil SHC	Mobil SHC	Mobil SHC	Mobil SHC	Mobil SHC	Mobil SHC	Mobil SHC	Mobil SHC

Mobil SHC Cibus Series	Cibus 32	Cibus 46	Cibus 68	Cibus 100	Cibus 150	Cibus 220	Cibus 320	Cibus 460
ISO Grade	32	46	68	100	150	220	320	460
Viscosity, ASTM D 445								
cSt @ 40ºC	30.7	46.4	67.5	100	162	222	311	458
cSt @ 100ºC	5.8	7.9	10.4	14.6	20.7	24.5	32.7	43.6
Viscosity Index, ASTM D 2270	134	140	140	143	150	139	147	148
Specific Gravity @ 15.6ºC, ASTM D 4052	0.843	0.846	0.851	0.839	0.843	0.843	0.854	0.856
Copper Strip Corrosion, ASTM D 130	1B	1B	1B	1A	1A	1B	1B	1B
Rust Characteristics Proc. A, ASTM D 665	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Pour Point, ºC, ASTM D 97	-51	-50	-47	-45	-21	-24	-42	-42
Flash Point, ºC, ASTM D 92	244	244	258	270	226	274	284	294
FZG, DIN 51354, Fail Stage	>12	>12	>12	12	›13	›13	›13	›13

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the applications referred to above and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contact office, or via the Internet. This product should not be used for purposes other than the applications referred to above. If disposing of used product, take care to protect the environment.

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