



Mobil SHC Cibus™ 32 HT

Mobil Industrial , Iceland

NSF H1 Registered Heat Transfer Oil

Product Description

Mobil SHC Cibus™ 32 HT is a fully synthetic high performance heat transfer oil intended for use in closed, indirect heating installations where NSF H1 registered lubricants are required. It is formulated to resist thermal cracking and chemical oxidation which in turn can mean a longer service life and lower propensity for deposit and sludge formation.

The viscometrics of Mobil SHC Cibus 32 HT have been carefully selected to help provide effective heat transfer and maximize system efficiency. The low viscosity means good fluidity at low temperatures leading to easier start-up at cold ambient temperatures.

Mobil SHC Cibus 32 HT has been designed to have good heat transfer properties such as specific heat and high thermal conductivity that help provide rapid heat dissipation that can lead to increased efficiency of the whole system. Furthermore, the low volatility of Mobil SHC Cibus 32 HT can mean lower consumption.

Mobil SHC Cibus 32 HT is NSF H1 registered and accepted by the Canadian Food Inspection Agency and is therefore suitable for applications where incidental food contact may occur. Also, the Mobil SHC Cibus 32 HT is manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels product integrity are maintained. It is also suitable under Kosher (Parve) and Halal dietary law and is formulated to be free from nuts, gluten, wheat and animal products. It meets DIN 51522 heat transfer fluids requirements and testing.

Mobil SHC Cibus 32 HT is part of a wide range of NSF H1 registered lubricants from ExxonMobil for the food and beverage processing industry.

Features and Benefits

| Features | Advantages and Potential Benefits |
|---|--|
| NSF H1 Registered Fluid | Suitable for use in food and beverage packaging and processing applications where incidental food contact can occur |
| 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 |
| Absence of wax and low pour point | Exceptional low temperature fluidity for easy start up |
| Resistance to thermal cracking and decomposition | Freedom from sludge and coke deposits and minimum interference with heat transfer capability and minimized maintenance needs |
| Good thermal properties | Can help improve operating efficiency of heat transfer system |

Applications

Handling and Storage Recommendations

It is recommended that Mobil SHC Cibus 32 HT as well as other Mobil SHC lubricants should be stored inside and segregated from other non-H1 lubricants. Ideally, it should be stored in a clearly signed, separate, designated inside area. Drums and pails should not be stacked below or above other

non-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 H1 lubricant where appropriate.

While Mobil SHC Cibus 32 HT may be physically compatible with other NSF H1 or non-NSF H1 registered mineral oil based heat transfer oils, a mixture may detract from its performance and also from its NSF registration status. Consequently it is recommended that before changing a system to Mobil SHC Cibus 32 HT, it should be thoroughly cleaned out and flushed to achieve the maximum performance benefits and to comply with NSF H1 registration.

Heat Transfer System Applications

Mobil SHC Cibus 32 HT is recommended for closed heating and cooling systems in a wide range of food processing applications where a NSF H1 registered fluid is required. These include meat, fish and beverage processing, ready-to-eat and convenience foods and animal food production. Further, this fluid is not recommended for use in open systems where hot oil is exposed directly to the air. If it sprays or escapes from leakage points, hot Mobil SHC Cibus 32 HT fluid may spontaneously ignite.

In closed systems, maximum bulk operating temperature is 280°C with maximum skin temperature of 295°C. Maximum operating temperatures of the fluid are dependent on the duration of exposure to higher temperatures (which can vary due to the design of the system, flow rates, etc). Please consult your original equipment manufacturer to ensure proper operation. In addition, the following conditions are recommended: 1) Maintain turbulent flow through the heater with Reynolds number greater than 10,000; 2) take steps (as directed by heater OEM) to avoid localised areas of high heat flux, which can lead to locally high skin temperatures in the heater and shorten fluid life; 3) nitrogen blanketing to minimise exposure of the fluid to oxygen, which can lead to shorter fluid life.

Periodic used oil analysis and monitoring of Mobil SHC Cibus 32 HT in service is recommended to maximize its working life. An initial check of fluid condition is recommended one month after filling the system with Mobil SHC Cibus HT 32 and ongoing fluid analysis is recommended at six month intervals.

Incidental Food Contact FDA 21CFR 178.3570

Mobil SHC Cibus 32 HT is NSF H1 registered which means that it meets the requirements of 21 CFR 178.3570 for use a lubricant where there is a possibility of incidental food contact. It is not to be used as a direct food contact lubricant.

Mobil SHC Cibus 32 HT can also be used in closed heating heat transfer applications in a range of other industrial sectors, such as chemicals, pharmaceuticals and plastics.

Specifications and Approvals

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| This product has the following approvals: |
| Kosher & Parve |
| Halal |

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|---|
| This product is registered to the requirements of: |
| NSF H1 |
| NSF HT1 |

| |
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| This product meets or exceeds the requirements of: |
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This product meets or exceeds the requirements of:

Canadian Food Inspection Agency Acceptance

DIN 51522:1998-11

FDA 21 CFR 178.3570

ISO 21469

Properties and Specifications

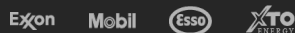
| Property | |
|--|------|
| Grade | N/A |
| ASTM Color, ASTM D1500 | 0.5 |
| Density @ 15 C, kg/l, ASTM D4052 | 829 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 234 |
| Kinematic Viscosity @ 100 C, mm ² /s, ASTM D445 | 5.91 |
| Kinematic Viscosity @ 40 C, mm ² /s, ASTM D445 | 30.4 |
| Pour Point, °C, ASTM D97 | -54 |
| Viscosity Index, ASTM D2270 | 135 |

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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