

# Klüberoil NH1 4

Synthetic gear oils for the food-processing industry



## Your benefits at a glance

- Klüberoil NH1 4 oils meet the CLP requirements according to DIN 51517-3
- Prolonged service life and extended service intervals compared to mineral and white oil owing to the base oil's ageing resistance and oxidation stability
- Good viscosity-temperature behaviour for good wear protection of the lubricated components within a wide range of operating temperatures
- NSF ISO 21469 certified - supports the compliance with the hygienic requirements in your production plant. You will find further information on ISO Standard 21469 on our website [www.klueber.com](http://www.klueber.com)

## Your requirements - our solution

Klüberoil NH1 4 oils are based on polyalphaolefin. The corrosion protection properties of these oils are good as is their ageing and oxidation stability.

Products of the Klüberoil NH1 4 oil series are NSF H1-registered and therefore comply with FDA 21 CFR § 178.3570. The lubricants were developed for incidental contact with products and packaging materials in the food-processing industry. The use of the Klüberoil NH1 4 oil series can contribute to increased reliability of your production equipment and processes. We nevertheless recommend conducting an additional risk analysis, e.g. HACCP.

## Application

The Klüberoil NH1 4 oil series are used for the lubrication of gears in the food processing industry.

## Application notes

When used in gears, Klüberoil NH1 4 oils may be applied by immersion, immersion circulation or injection. Drip-feed lubrication

and application by brush or oil can is also possible.

Klüberoil NH1 4 oil series are miscible with mineral oils and polyalphaolefin oils. However, we recommend cleaning the oil circulation system or flushing it with the new oil prior to using Klüberoil NH1 4 oil series for the first time. Especially with a view to the H1 requirements in the food-processing industry, any mixing of Klüberoil NH1 4 oil series with non-food-grade lubricants should be avoided.

For determining the correct viscosity for gears, the manufacturer's instructions take priority.

Please contact our technical sales staff for further information and support when required.

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.

| Pack sizes    | Klüberoil NH1<br>4-150 | Klüberoil NH1<br>4-220 | Klüberoil NH1<br>4-320 | Klüberoil NH1<br>4-460 |
|---------------|------------------------|------------------------|------------------------|------------------------|
| Canister 20 l | +                      | +                      | +                      | +                      |
| Drum 200 l    | +                      | +                      | +                      | +                      |

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| Characteristics  | Klüberoil NH1<br>4-150 | Klüberoil NH1<br>4-220 | Klüberoil NH1<br>4-320 | Klüberoil NH1<br>4-460 |
|--|------------------------|------------------------|------------------------|------------------------|
| Article number   | 029077                 | 029075                 | 029076                 | 029078                 |
| Service temperature, lower limit   | -30 °C                 | -30 °C                 | -30 °C                 | -30 °C                 |
| Service temperature, upper limit   | 120 °C                 | 120 °C                 | 120 °C                 | 120 °C                 |
| NSF H1 registration number   | 146961                 | 146962                 | 146963                 | 146964                 |
| Density, DIN 51757, 15°C   | approx. 858 kg/m³      | approx. 861 kg/m³      | approx. 862 kg/m³      | approx. 862 kg/m³      |
| ISO viscosity grade, DIN ISO 3448, ISO VG  | 150                    | 220                    | 320                    | 460                    |
| Kinematic viscosity, DIN EN ISO 3104 / DIN 53000-1, based on standard / ASTM D445 / ASTM D7042, 100°C                        | approx. 19 mm²/s       | approx. 26 mm²/s       | approx. 35 mm²/s       | approx. 47 mm²/s       |
| Kinematic viscosity, DIN EN ISO 3104 / DIN 53000-1, based on standard / ASTM D445 / ASTM D7042, 40°C                         | approx. 150 mm²/s      | approx. 220 mm²/s      | approx. 320 mm²/s      | approx. 460 mm²/s      |
| Viscosity index, DIN ISO 2909  | ≥ 140                  | ≥ 140                  | ≥ 150                  | ≥ 150                  |
| FZG scuffing test, DIN ISO 14635-1, A / 8.3 / 90, failure load stage   | ≥ 12                   | ≥ 12                   | ≥ 12                   | ≥ 12                   |
| Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx. | 36 months              | 36 months              | 36 months              | 36 months              |

## Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 95 years.

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