

# Klüberoil NH1 4

Synthetic gear oils for the food-processing industry



## Benefits for your application

- 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)

## Description

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.

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.

## Application

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

## 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.

## 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.

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

Product data	Klüberoil NH1 4-150	Klüberoil NH1 4-220	Klüberoil NH1 4-320	Klüberoil NH1 4-460
Article number	029077	029075	029076	029078
NSF-H1 registration	146 961	146 962	146 963	146 964
Lower service temperature	-30 °C / -22 °F	-30 °C / -22 °F	-30 °C / -22 °F	-30 °C / -22 °F



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Product data	Klüberoil NH1 4-150	Klüberoil NH1 4-220	Klüberoil NH1 4-320	Klüberoil NH1 4-460
Upper service temperature	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F
Density, based on DIN 51757) at 15 °C	approx. 858 kg/ m <sup>3</sup>	approx. 861 kg/ m <sup>3</sup>	approx. 862 kg/ m <sup>3</sup>	approx. 862 kg/ m <sup>3</sup>
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ ASTM D 7042, 40 °C	approx. 150 mm <sup>2</sup> /s	approx. 220 mm <sup>2</sup> /s	approx. 320 mm <sup>2</sup> /s	approx. 460 mm <sup>2</sup> /s
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ ASTM D 7042, 100 °C	approx. 19 mm <sup>2</sup> / s	approx. 26 mm <sup>2</sup> / s	approx. 35 mm <sup>2</sup> / s	approx. 47 mm <sup>2</sup> / s
Viscosity index, DIN ISO 2909	>= 140	>= 140	>= 150	>= 150
ISO viscosity grade, DIN ISO 3448	150	220	320	460
FZG scuffing test, DIN ISO 14635-1, A/8.3/90, scuffing 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 80 years.

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The data in this document is based on our general experience and knowledge at the time of publication and is intended to give information of possible applications to a reader with technical experience. It constitutes neither an assurance of product properties nor does it release the user from the obligation of performing preliminary field tests with the product selected for a specific application. All data are guide values which depend on the lubricant's composition, the intended use and the application method. The technical values of lubricants change depending on the mechanical, dynamical, chemical and thermal loads, time and pressure. These changes may affect the function of a component. We recommend contacting us to discuss your specific application. If possible we will be pleased to provide a sample for testing on request. Klüber products are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this document at any time without notice.

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