

# Klüberfluid NH1 4-005

Synthetic barrier fluid for mechanical seals



## Your benefits at a glance

- **No build-up of deposits if the product is used according to the intended purpose in mechanical seals due to the advanced synthetic oil formulation**
- **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.**

## Your requirements - our solution

Klüberfluid NH1 4-005 is based on a synthetic hydrocarbon oil and was developed for the lubrication of mechanical seals operating under various conditions in the chemical and pharmaceutical industries.

Klüberfluid NH1 4-005 is NSF H1 registered and therefore in compliance with FDA 21 CFR § 178.3570. The lubricant was developed for incidental contact with products and packaging materials in the food-processing, cosmetics, pharmaceutical or animal feed industries. The use of Klüberfluid NH1 4-005 can contribute to increase reliability of your production processes. Nevertheless it is recommended to conduct an additional risk analysis, e.g. HACCP.

## Application

Klüberfluid NH1 4-005 can be used as a barrier fluid in mechanical seals operating under inert gas conditions. Mechanical seals have been used in mixers, driers, mills, kneaders, reactors and pumps in the chemical and the pharmaceutical industry for many years.

Klüber Lubrication offers a range of oils that were especially developed for use as a barrier medium in mechanical seals. The more the seal is stressed in terms of pressure, speed and

heat, the lower should the oil's viscosity be. For naturally circulating barrier fluids, the selected oil viscosity is normally approx. 5 mm<sup>2</sup>/s, as is the case with Klüberfluid NH1 4-005.

Which type of barrier fluid should be chosen depends on the type of seal elastomer as well as on the application's process conditions.

For forced circulation, the oil should have a viscosity of 12 - 90 mm<sup>2</sup>/s. Klüber Lubrication offers solutions also for these cases. Our experts will be pleased to provide advice.

## Application notes

The recommendations of the mechanical seal manufacturer should be observed.

The stated service temperature range is based on an application under inert gas, as is normally the case with mechanical seals .

## 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	Klüberfluid NH1 4-005
Canister 20 l	+

Product data	Klüberfluid NH1 4-005
Article number	029066
NSF-H1 registration	143 373
Chemical composition, type of oil	synthetic hydrocarbon oil
Appearance	clear
Colour space	colourless
Upper service temperature, inert gas	150 °C
Lower service temperature	-40 °C / -40 °F



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Product data	Klüberfluid NH1 4-005
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 5 mm <sup>2</sup> /s
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 1.7 mm <sup>2</sup> /s
Pour point, DIN ISO 3016	<= -55 °C
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	60 months

## Bibliographical values\*\*

Temperature in °C	Specific heat in J/kg K	Thermal conductivity in W/m K
0	2,052	137,6
50	2,241	134,6
100	2,429	131,7
150	2,618	128,8
200	2,806	125,8
250	2,995	122,9

\*\*Based on bibliographical values (rest upon base oil) we consider the above mentioned approximate values as admissible. For information only. No assurance of values/properties of the series-produced product. Sources: Datasheet September 2016

## 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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