

# Klüberbio LG 39-701 N

Eco-compatible operating lubricant for open gear drives



## Your benefits at a glance

- Complies with the requirements for Environmentally Acceptable Lubricants as defined in Appendix A of the EPA 2013 GP (Vessel General Permit)
- Lower environmental impact in the event of leakage. The base oil consists of renewable raw materials and is ultimately biodegradable
- Good low-temperature behaviour enables operation of open gear drives in cold conditions
- Selected additives ensure longer component life and reduced wear
- Cost reduction due to low consumption when applied by selected spraying systems
- Meets requirements for OSPAR conformance, registered in Denmark, Norway, Netherlands and Great Britain

## Your requirements - our solution

Are you a manufacturer or operator of open gear drives, jack-up lifting systems or other on-board equipment that is frequently in contact with sea water? In that case you are likely to be interested in obtaining an eco-friendly, high-performance operating lubricant.

Our Klüberbio LG 39-701 N is a high-performance grease with a new type of base oil and additive package. It combines very good eco-friendliness with high load-carrying capacity, good antiwear and anticorrosive effect and excellent adhesion to surfaces.

The high-viscosity base oil of Klüberbio LG 39-701 N comes from 100 % renewable resources.

Klüberbio LG 39-701 N complies with the 2013 Vessel General Permit requirements of the Environmental Protection Agency (EPA) in terms of biodegradability, minimal toxicity and bio-accumulation to be met by Environmentally Acceptable Lubricants.

Due to the lubricant's excellent low-temperature behaviour, it can be pumped in centralised lubricating systems down to -30 °C and sprayed even below 0 °C. These positive product characteristics enable you to use the lubricant over a wider temperature range than is common with mineral-oil-based greases of the same base oil viscosity.

Klüberbio LG 39-701 N enables a further reduction of more than 50 % in lubricant consumption in jack-up lifting systems if spray

application is used. This will further reduce your operating costs and is beneficial to the environment.

## Application

Klüberbio LG 39-701 N was developed for the lubrication of open gear drives and rack-and-pinion drives as well as for lubrication of rudder stocks and sliding surfaces with high surface pressure.

The product can be used in maritime applications requiring good eco-compatibility, a good anticorrosive effect and/or high load-carrying capacity, e.g. in open anchor winch drives, rack and pinions in jack-up lifting systems, slow-moving plain bearings, stern roller bearings on AHTS vessels or rudder systems.

## Application notes

Klüberbio LG 39-701 N can be continuously applied by means of transfer pinion lubrication, spray systems, automatic greasing systems or by brush.

The required lubricant quantity and the upper service temperature range depend on the operating conditions in each individual application. Our sales engineers will be pleased to advise you.

## 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

Can 1 kg

### Klüberbio LG 39-701 N

+

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Pack sizes	Klüberbio LG 39-701 N
Bucket 18 kg	+
Bucket 25 kg	+
Drum 180 kg	+

Characteristics	Klüberbio LG 39-701 N
Article number	009050
Composition, thickener	calcium soap
Composition, type of oil	natural ester
Colour space	beige
Texture	homogeneous
Vessel General Permit	passed
Biodegradability, OECD 301 F, within, 28 days	≥ 60 %
Density, Klüber method: PN 024, 20°C	approx. 0.94 g/cm³
Worked penetration, DIN ISO 2137 / ASTM D217, 25°C, lower limit	300 0.1 mm
Worked penetration, DIN ISO 2137 / ASTM D217, 25°C, upper limit	330 0.1 mm
Kinematic viscosity of the base oil, DIN EN ISO 3104 / DIN 51562-1 / ASTM D445 / ASTM D7042, 100°C	approx. 93 mm²/s
Kinematic viscosity of the base oil, DIN EN ISO 3104 / DIN 51562-1 / ASTM D445 / ASTM D7042, 40°C	approx. 680 mm²/s
Flow pressure, DIN 51805-2, -30°C	≤ 1400 mbar
Dropping point, DIN ISO 2176 / IP 396	≥ 100 °C
Four-ball tester, welding load, DIN 51350-4	≥ 5500 N
FZG scuffing test, DIN ISO 14635-3, based on standard, A / 2.8 / 50, failure load stage	> 12
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months

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## 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 90 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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