

LGCC-233014500G, MicroLube



**Recommended Lubricant for X-axis Rails
on GCC Laser Machine Models: Spirit
SLS, GLS, SGLS-Hyb, S290LS, FMC 270**

Product information

MICROLUBE GL 261/GL 262

Special lubricating greases for boundary friction conditions and tribo-corrosion

Benefits for your application

- Optimum lubrication in the boundary friction regime, thus preventing machine downtime due to tribo-corrosion
- Tried-and-tested for many years and approved by OEMs
- Longer component life due to special additives, especially with oscillations and micro-movements
- Trouble-free operation of machines due to good pumpability in central lubrication systems*

Description

MICROLUBE GL 261/GL 262 greases are special lubricating greases on a mineral oil base. They also contain special lithium soap and the MICROLUBE additive package, which ensures a wear-free surface finish. Running-in wear is reduced to a minimum. In addition, the MICROLUBE additive package provides protection in the boundary friction regime, thus preventing tribo-corrosion. MICROLUBE GL 261/GL 262 greases have the capacity to absorb high pressures, and they have good anti-corrosion properties.

Application

MICROLUBE GL 261/GL 262 greases are particularly suitable for low to medium-speed plain and rolling bearings, and for swivel movements and vibrations.

Other applications:

- linear guides
- serrations, multiple spline shafts
- small gears, e.g. adjustment gears

They are generally suitable for machine elements potentially subject to tribo-corrosion.

Application notes

MICROLUBE GL 261/GL 262 greases can be precisely applied by brush, spatula, grease gun, and through centralized lubrication systems*.

Minimum shelf life

The minimum shelf life is approximately 36 months if the product is stored in its unopened original container in a dry, frost-free place.

Pack sizes

- 400 g cartridge
- 1 kg can
- 25 kg bucket
- 250 ml aerosol can (only MICROLUBE GL 261)
- 180 kg drum (only MICROLUBE GL 261)

Material Safety Data Sheets

Material safety data sheets can be downloaded or requested via our website www.klueber.com. You may also obtain them through your contact person at Klüber Lubrication.

* The product can normally be applied by means of centralised lubricating systems. Please note, however, that due to different system configurations and application conditions the pumpability of the product has to be confirmed for each individual application. We will be pleased to provide assistance in this matter.



Product information

MICROLUBE GL 261/GL 262

Special lubricating greases for boundary friction conditions and tribo-corrosion

Product data	MICROLUBE GL 261	MICROLUBE GL 262
Oil type / thickener	mineral oil / special lithium soap	mineral oil / special lithium soap
Service temperature range**, [°C] approx.	- 30 to 140	- 25 to 140
Colour, appearance	yellowish-brown, almost transparent	yellowish-brown, almost transparent
Texture	homogeneous, fibrous	homogeneous, fibrous
Density at 20 °C, [g/cm ³] approx.	0.89	0.89
Worked penetration, DIN ISO 2137, at 25°C, [0.1 mm]	310 - 340	265 – 295
Apparent dynamic viscosity, viscosity grade****	L / M	M
Base oil viscosity, DIN 51562 pt. 01 at 40 °C, [mm ² /s], approx. at 100 °C, [mm ² /s], approx.	280 20	280 20
Corrosion protection of lubricating greases, DIN 51802, (SKF-EMCOR), 1 week, distilled water, corrosion rating	≤ 1	≤ 1
Flow pressure, DIN 51805 at -30 °C, [mbar] at -25 °C, [mbar]	≤ 1,400 -	- ≤ 1,400
Drop point, DIN ISO 2176, [°C]	≥ 220	≥ 220
Speed factor*** (n x d _m), [mm/min] approx.	300,000	300,000

** Service temperatures are guide values which depend on the lubricant's composition, the intended use and the application method. Lubricants change their consistency, apparent dynamic viscosity or viscosity depending on the mechano-dynamical loads, time, pressure and temperature. These changes in product characteristics may affect the function of a component.

*** Speed factors are guide values which depend on the type and size of the rolling bearing type and the local operating conditions, which is why they have to be confirmed in tests carried out by the user in each individual case.

**** Klüber viscosity grades: EL = extra light lubricating grease; L = light lubricating grease; M = medium lubricating grease; S = heavy lubricating grease; ES = extra heavy lubricating grease

Lubrication is our world

With more than 2000 products available around the world, you can be sure that Klüber has the right product for your application. Please contact Klüber Lubrication specialists worldwide to assist you in all matters regarding lubrication.

www.klueber.com

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The data in this product information is based on our general experience and knowledge at the time of printing 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 tests with the selected product. We recommend contacting our Technical Consulting Staff to discuss your specific application. If required and possible we will be pleased to provide a sample for testing. Klüber products are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this product information at any time without notice.



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March 2011

Information about REACH-registration numbers, exposure scenarios (eSDS) and GHS-safety data sheets concerning Klüber products

Dear Sir or Madam,

with the following letter we would like to inform you about important amendments regarding REACH and GHS and explain our further advance with regard to our products.

REACH registration numbers

The first registration deadline for substances with certain properties (CMR substances, R50/53 substances) as well as substances produced in an annual volume of more than 1000 tons has expired at the end of November 2010; therefore, REACH registration numbers are now available for the first time. However, it cannot be concluded that all substances have already been allocated such a registration number automatically. For manufacturers or importers of low annual production or import volumes of phase-in substances, longer transitional periods apply, some of them until the end of May 2018. These companies may continue to act as suppliers, even if their substances have not been allocated registration numbers yet, provided that the pre-registration obligations were complied with. It may take some more time before valid registration numbers are available for all substances in preparations. The registration number will normally be communicated through the safety data sheet or in another suitable form in cases where safety data sheets are not required. There is no legal obligation to use an additional channel for the communication of the registration number. The availability of registration numbers alone does not constitute a reason for updating safety data sheets immediately. Furthermore, it does not make much sense to include the registration numbers of individual mixture constituents before such information is available for all constituents. However, as this will not be the case until weeks or months after the expiry of each registration deadline, it cannot be assumed that the information can be provided in full before the expiry of the last registration deadline 2018. Safety data sheets with a full set of registration numbers can even take more time to be published.

your global specialist

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SVHC candidate substances

If a substance has been listed on the candidate list (SVHC list), this does not necessarily mean that certain uses of the substance are now subject to risks. Their listing may lead to authorisation requirements for certain uses at a later stage, however does not constitute an immediate limitation of use. It gives in fact rise to a duty to inform as required for hazardous substances throughout the supply chain. Hazardous constituents are named in Chapter 3 of the safety data sheet. Further indications under Chapter 15 of the safety data sheet will not have to be provided before their official listing in Annex XIV of the REACH regulation. There are no further obligations with regard to the safety data sheet for suppliers of mixtures containing SVHC substances. Downstream users do not require a supplier declaration on "the absence of SVHC substances". Moreover, suppliers are not obliged to inform downstream users on CLP notifications undertaken. The CLP notification number, like the pre-registration number, serves for internal use at the manufacturer or importer and for communication with the authorities only.

eSDS and exposure scenarios

Due to the situation regarding registrations of substances and relevant transitional deadlines specified before, it will take some time before the risk assessment is completed for all substances subject to registration. For this reason and because there is currently no ECHA-validated method to generate exposure scenarios for mixtures, it is hardly possible to give practice-oriented recommendations for the generation of exposure scenarios for mixtures, in particular for those containing several hazardous substances. An officially approved methodology is required for the generation of such exposure scenarios. Considering the publication of relevant data and the timeframe needed for the processing and implementation along the entire supply chain, we may need some more time before we are able to provide a validated methodology for generating an extended safety data sheet for our products on the basis of raw material safety data sheets. In extreme cases, we will not be able to do so before the end of 2018.

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Safety data sheets according to Annex II of the REACH regulation and GHS

Besides the conversion of safety data sheets to GHS for substances in Europe that was to be effective by 1 December 2010, the next step to be undertaken is the conversion according to the formal requirements of the new Annex II of the REACH regulation published in mid-2010 during the next two years until 1 December 2012. Besides the addition of several subchapters, it is expected that statements on the existence of data for subchapters will be required. For our products, that are mixtures composed of several constituents, the transitional period in Europe for the conversion to GHS classification has commenced and will continue until 1 June 2015. The new formal requirements of Annex II, however, must be implemented already by 1 December 2012. Provided that sufficient data are available, Klüber will implement the conversion to GHS already by this date and pass this information on to its suppliers, also with regard to legal obligations for hazardous substances. However, there will be some cases in which the current classification system according to the Dangerous Substances Directive and the Dangerous Preparation Directive (67/548/EEC and 1999/45/EC) will have to be maintained until our suppliers have communicated all relevant data on the constituents. Although it is Klüber's aim to implement the conversion as quickly as possible, and also according to the requirements of countries outside Europe, we may need the entire transitional period until 1 June 2015 for the implementation of GHS on the safety data sheets and labels. Klüber are already in contact with their suppliers and will try to forward their data to our customers as quickly as possible.

Safety data sheets for products not classified as hazardous in Europe

For substances and mixtures not classified as hazardous, there will continue to be no legal obligation to generate a safety data sheet; however, the classification statement must be forwarded to the customer in a suitable form. Klüber have decided to continue making this classification information available in safety data sheets also for non-hazardous products. However, we depend on our suppliers and cannot converse to GHS until we have all preliminary information on constituents available. These safety data sheets are, however, not distributed automatically, but must be requested from the account manager. The safety data sheets for hazardous products will still be distributed automatically after significant changes even retroactively as yet.

Please don't hesitate to contact us for further questions

With best regards

Klüber Lubrication München KG

Material Compliance Management

your global specialist

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