

Klüberbio CA 2-100, 2-460

Rapidly biodegradable multi-purpose oils



Benefits for your application

- **Multi-purpose oils**
- **Rapidly biodegradable**
- **Water hazard class 1**
- **Meet CLP requirements**
- **Excellent viscosity-temperature relation**
- **Good antiwear behaviour**
- **Very adhesive**
- **FZG test A/8.3/90 scuffing load stage ≥ 12**

Description

Klüberbio CA 2 oils are fully synthetic multi-purpose oils which fall under water hazard class 1, i.e. they are not hazardous to water. They have an excellent viscosity-temperature relation and a wide service temperature range.

Klüberbio CA 2 oils protect against corrosion and wear and they are very adhesive and resistant to ageing and oxidation. In the FZG test, DIN 51 354 pt 2 (A/8.3/90) these oils have a scuffing load stage ≥ 12 and meet the CLP requirements. In accordance with CEC-L-33-A-94, biodegradability after 21 days is $> 70\%$.

Application

Klüberbio CA 2 oils are used for the lubrication of open drive and conveyor chains, spindles and joints as well as for spur, bevel and worm gears and pertinent machine elements, such as couplings, plain and rolling bearings.

Klüberbio CA 2 oils are used in agricultural and forestry equipment, water treatment installations, gardening equipment, and in machinery for do-it-yourselfers and craftsmen.

Klüberbio CA 2 oils are especially suitable for applications where oil leakage might contaminate the environment.

Application notes

Klüberbio CA 2 oils can be applied by immersion, immersion circulation, injection and drip-feed lubrication. They can also be applied by brush, oil can or automatic lubrication systems.

Depending on temperature and exposure time, synthetic lubricants on an ester base may have an impact on the functional capacity of rubber-elastic sealing materials.

Seals made of NBR materials (acrylonitrile-butadiene-rubber) can be used at permanent temperatures up to max. 80°C. For higher temperatures we recommend to use seals made of FKM materials (fluorinated rubber).

Paints may be attacked by synthetic lubricants. When applying Klüberbio CA 2 oils we recommend the use of two-component paints (reactive paints) for interior coating. We recommend testing the suitability of design materials and paints in contact with the selected lubricants, especially for series application.

When applying Klüberbio CA 2 oils through an automatic lubrication system, observe the manufacturer's instructions on viscosity limits.

Material safety data sheets

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

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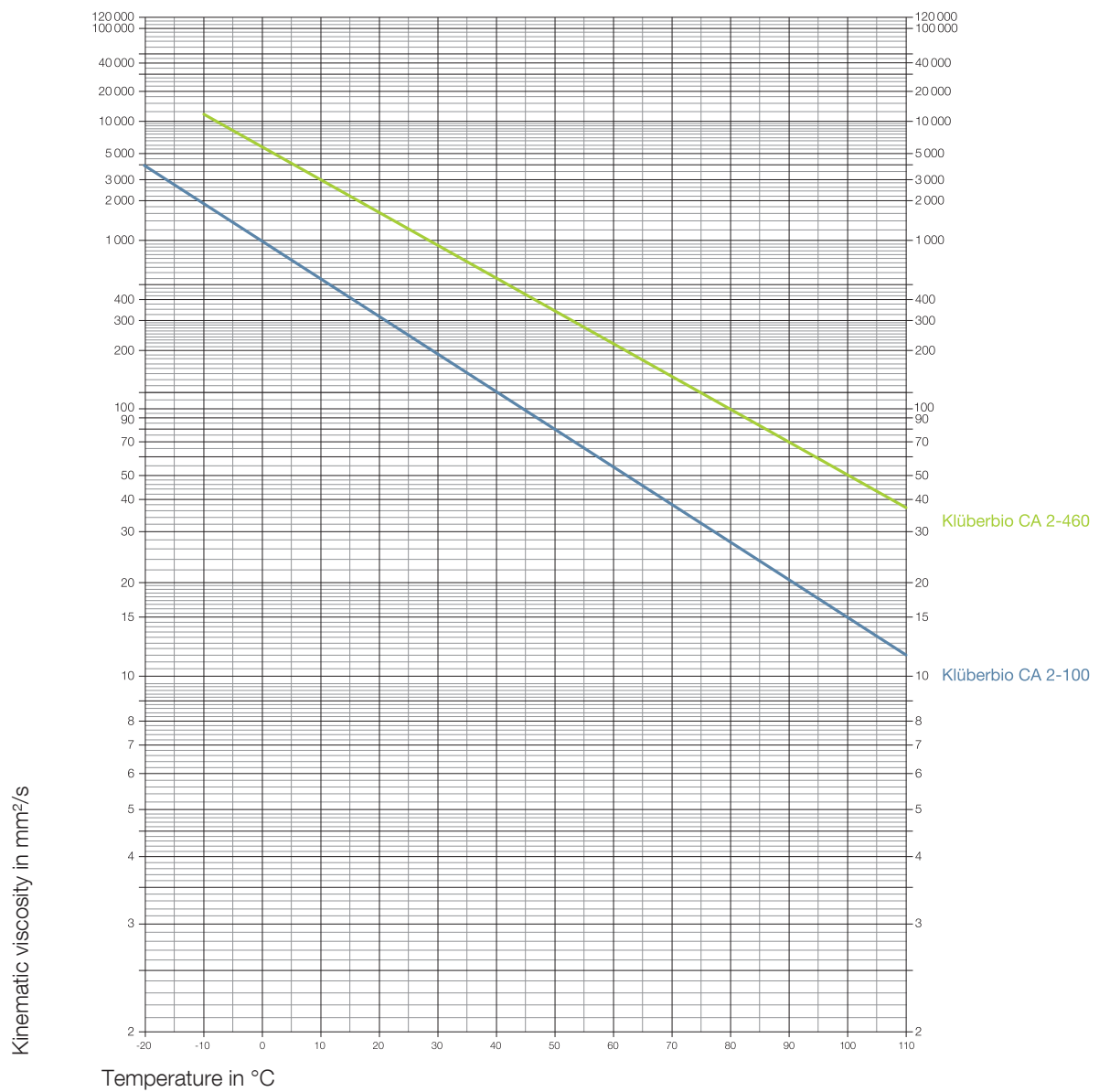
Rapidly biodegradable multi-purpose oils

Pack sizes	Klüberbio CA 2-100	Klüberbio CA 2-100 Spray	Klüberbio CA 2-460
Canister 5 l	+	-	+
Canister 20 l	+	-	+
Aerosol can 250 ml	-	+	-

Product data	Klüberbio CA 2-100	Klüberbio CA 2-100 Spray	Klüberbio CA 2-460
Article number	009002	081236	009005
Lower service temperature	-30 °C / -22 °F	-30 °C / -22 °F	-20 °C / -4 °F
Upper service temperature	110 °C / 230 °F	110 °C / 230 °F	110 °C / 230 °F
Density, DIN 51757, 20 °C	approx. 0.93 g/cm ³	approx. 0.93 g/cm ³	approx. 0.95 g/cm ³
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 100 mm ² /s	approx. 100 mm ² /s	approx. 460 mm ² /s
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 15 mm ² /s	approx. 15 mm ² /s	approx. 50 mm ² /s
Viscosity index, DIN ISO 2909	>= 140	>= 140	>= 160
ISO viscosity grade, DIN ISO 3448	100	100	460
Biodegradability in acc. with CEC-L-33-A-93, after 21 days	>= 70 % by weight	>= 70 % by weight	>= 70 % by weight
Anticorrosive properties on steel, DIN ISO 7120, method A, steel, 24 h/60 °C	no rust	no rust	no rust
Pour point, DIN ISO 3016	<= -30 °C	<= -30 °C	<= -20 °C
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



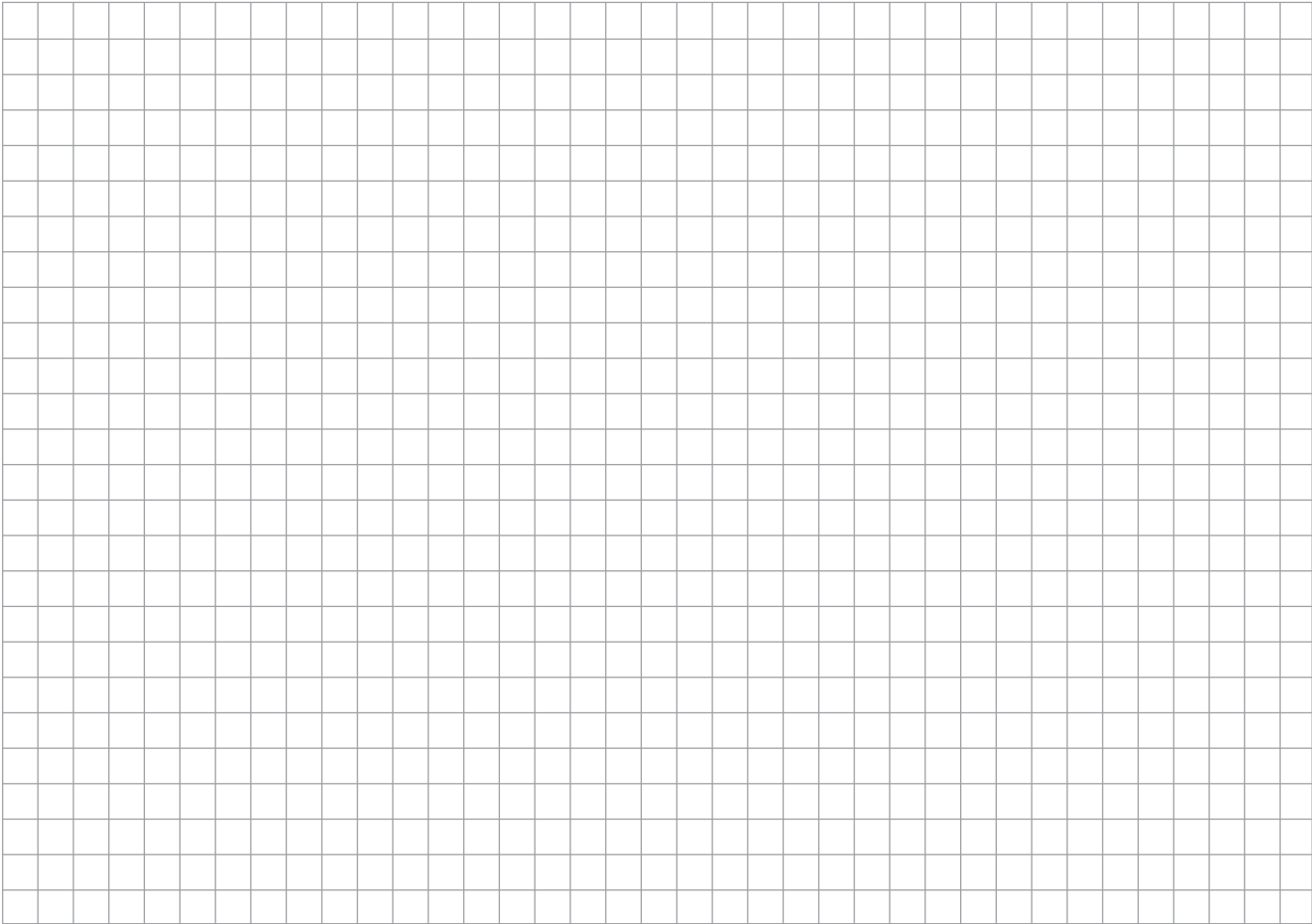
Viscosity-temperature diagram





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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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