

# ISOFLEX® NBU 15

Special greases for rolling bearings operating at high speeds and loads



## Description:

ISOFLEX NBU 15 is a high-speed grease with a good pressure absorption capacity. It consists of a combination of ester oil / synthetic hydrocarbon oil / mineral oil and barium complex soap. It provides good wear and corrosion protection, and is resistant to water, ambient media and oxidation.

## Application:

These lubricants are especially suitable for high-speed plain and rolling bearings, such as spindle bearings in machine tools and textile machines, threaded spindles, ball screws subject to high loads, running gear bearings. They are also used as long-term greases for bearings in cableways and precision engineering applications, and they are suitable for the lubrication of tooth flanks in precision gears (e.g. bevel gears in milling machines, electromechanical valve actuators).

## Application notes:

The lubricant is applied by brush, spatula, grease gun or grease cartridge. Owing to the different compositions of elastomers and plastic materials, it is indispensable to check compatibility prior to series application.

## Minimum shelf life:

The minimum shelf life is approx. 36 months if the product is stored in the original closed container in a dry place.

## Pack sizes:

50 g PE tube  
400 g cartridge  
1 kg can  
25 kg bucket

## ISOFLEX NBU 15

- Good pressure absorption capacity
- For high speeds
- Good wear protection
- Good corrosion protection
- Resistant to ageing and oxidation
- Good resistance to water and ambient media

## Product data:

	ISOFLEX NBU 15
Colour	beige
Texture	homogeneous, short-fibred
Density at 20 °C, g/cm <sup>3</sup>	0.99
Service temperature range*, °C, approx.	- 40 to 130
Drop point, DIN ISO 2176, °C, approx.	> 220
Worked penetration, DIN ISO 2137, (ASTM D 217); 0.1 mm	265 to 295
Corrosion protection (Emcor test), DIN 51 802, 1 week, distilled water, corrosion rating	0/1
Base oil viscosity, DIN 51 562/1, at 40 °C, mm <sup>2</sup> /s, approx. at 100 °C, mm <sup>2</sup> /s, approx.	21 4.7
Speed factor** (n x d <sub>m</sub> ), mm x min <sup>-1</sup> , approx.	1,000,000
Apparent viscosity***, Klüber viscosity grade	M

\* 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

# ISOFLEX® NBU 15

## Safety Data Sheet

<b>1.1 Product name: ISOFLEX NBU 15</b> <b>Code-No.: 004 026</b> <p style="text-align: right;"><b>06.11.2001</b></p>											
<b>1.2 Klüber Lubrication München KG</b> Geisenhausenerstraße 7 D-81379 München Tel. ++49 - 89 78 76 - 0 telephone exchange Fax: ++49 - 89 78 76 - 333		<b>Emergency telephone no.:</b> <b>++49 - 89 7876 - 0</b>									
<b>2. Composition / information on ingredients</b> Chemical characterization (preparation): Mineral oil, synthetic hydrocarbon oil, ester oil, barium complex soap Hazardous ingredients <table border="1"> <thead> <tr> <th>Components</th> <th>Value</th> <th>Symbols</th> <th>R-phrases</th> </tr> </thead> <tbody> <tr> <td>Barium soap</td> <td>&gt; 25 %</td> <td></td> <td>52/53</td> </tr> </tbody> </table>				Components	Value	Symbols	R-phrases	Barium soap	> 25 %		52/53
Components	Value	Symbols	R-phrases								
Barium soap	> 25 %		52/53								
<b>3. Hazards identification</b> R phrases: 52/53. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment Prolonged skin contact may cause skin irritation and/or dermatitis											
<b>4. First aid measures</b> After inhalation: Not applicable After contact with skin: Wash off with mild cleaners and plenty of water If symptoms persist, call a physician After contact with eyes: Rinse with plenty of water If symptoms persist, call a physician After ingestion: Do not induce vomiting. Obtain medical attention Advice to doctor: Treat symptomatically											
<b>5. Fire-fighting measures</b> Suitable extinguishing media: Water spray, foam, dry powder, carbon dioxide (CO <sub>2</sub> ) Unsuitable extinguishing media: High volume water jet Special Hazards: In case of fire the following can be released: Carbon monoxide, hydrocarbons Special protective equipment for firefighters: Standard procedure for chemical fires Additional information: Water mist may be used to cool closed containers. In the event of fire and/or explosion do not breathe fumes											
<b>6. Accidental release measures</b> Personal precautions: Not required Environmental precautions: Do not flush into surface water or sanitary sewer system Methods for cleaning up / taking up: Use mechanical handling equipment. Dispose of absorbed material in accordance with the regulations Additional information: None											
<b>7. Handling and storage</b> Advice on safe handling: No special handling advice required Advice on protection against fire and explosion: No special precautions required Requirements on storage rooms and vessels: Store at room temperature in the original container Incompatible materials: Incompatible with oxidizing agents. Do not store together with food											
<b>8. Exposure controls / personal protection</b> Additional advice on system design: Not applicable Ingredients and specific control parameters: None Respiratory protection: No special protective equipment required Hand protection: No special protective equipment required Eye protection: No special protective equipment required Body protection: No special protective equipment required Other protection measures: No special protective equipment required General protection and hygiene measures: Avoid prolonged and/or repeated contact with skin.											

Remove soiled or soaked clothing immediately. Clean skin thoroughly after work; apply skin cream																													
<b>9. Physical and chemical properties</b> <table border="1"> <tbody> <tr><td>Form</td><td>paste</td></tr> <tr><td>Colour</td><td>beige</td></tr> <tr><td>Odour</td><td>characteristic</td></tr> <tr><td>Drop point</td><td>&gt; 220 °C, DIN ISO 2176</td></tr> <tr><td>Flash point</td><td>&gt; 200 °C (base oil)</td></tr> <tr><td>Ignition temperature</td><td>not applicable</td></tr> <tr><td>Lower explosion limit</td><td>not applicable</td></tr> <tr><td>Upper explosion limit</td><td>not applicable</td></tr> <tr><td>Vapour pressure-first</td><td>not applicable</td></tr> <tr><td>Density</td><td>approx. 0.99 g/cm<sup>3</sup>, 20 °C</td></tr> <tr><td>Water solubility</td><td>insoluble</td></tr> <tr><td>pH value</td><td>not applicable</td></tr> <tr><td>Kinematic viscosity</td><td>not applicable</td></tr> <tr><td>Further information</td><td>none</td></tr> </tbody> </table>		Form	paste	Colour	beige	Odour	characteristic	Drop point	> 220 °C, DIN ISO 2176	Flash point	> 200 °C (base oil)	Ignition temperature	not applicable	Lower explosion limit	not applicable	Upper explosion limit	not applicable	Vapour pressure-first	not applicable	Density	approx. 0.99 g/cm <sup>3</sup> , 20 °C	Water solubility	insoluble	pH value	not applicable	Kinematic viscosity	not applicable	Further information	none
Form	paste																												
Colour	beige																												
Odour	characteristic																												
Drop point	> 220 °C, DIN ISO 2176																												
Flash point	> 200 °C (base oil)																												
Ignition temperature	not applicable																												
Lower explosion limit	not applicable																												
Upper explosion limit	not applicable																												
Vapour pressure-first	not applicable																												
Density	approx. 0.99 g/cm <sup>3</sup> , 20 °C																												
Water solubility	insoluble																												
pH value	not applicable																												
Kinematic viscosity	not applicable																												
Further information	none																												
<b>10. Stability and reactivity</b> Conditions to avoid: None Materials to avoid: Strong oxidizing agents Hazardous decomposition products: None under normal use Additional information: None																													
<b>11. Toxicological information</b> Prolonged skin contact may cause skin irritation and/or dermatitis																													
<b>12. Ecological information</b> Information on elimination (persistence and degradability): Product is insoluble in water. May be separated out mechanically in purification plants Behaviour in environmental compartments: Ecological injuries are not known or expected under normal use Ecotoxic effects: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment Additional information: Should not be released into the environment																													
<b>13. Advice on Disposal</b> Code of waste: 120112 Wastes from shaping and surface treatment of metals and plastics; wastes from shaping (including forging, welding, pressing, drawing, turning, cutting and filing); spent waxes and fats Disposal: The code of waste has to correspond to the Council Directive 75/442/EEC and be specific as far as the related sector and process are concerned Can be incinerated when in compliance with local, state and federal regulations																													
<b>14. Transport information</b> <table border="1"> <tbody> <tr><td>GGVS / GGVE:</td><td>not applicable</td></tr> <tr><td>ADN / ADN:</td><td>not applicable</td></tr> <tr><td>IMDG-Code:</td><td>not applicable</td></tr> <tr><td>ICAO / IATA-DGR:</td><td>not applicable</td></tr> </tbody> </table> Further information: Not classified as dangerous in the meaning of transport regulations		GGVS / GGVE:	not applicable	ADN / ADN:	not applicable	IMDG-Code:	not applicable	ICAO / IATA-DGR:	not applicable																				
GGVS / GGVE:	not applicable																												
ADN / ADN:	not applicable																												
IMDG-Code:	not applicable																												
ICAO / IATA-DGR:	not applicable																												
<b>15. Regulatory information</b> Labelling according to EU-guidelines: The product is classified labelled in accordance with EC-directive 99/45/CE R phrases: 52/53. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment S phrases: 61. Avoid release to the environment. Refer to special instructions/safety data sheets Labelling according to the Swiss regulations: No toxicological class, BAGT-no. 611500																													
<b>16. Other information</b> Issue-department of Safety Data Sheet: Chemical Documentation, Tel.: ++49 - 89 7876 - 564																													

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.



Klüber Lubrication München KG, a member of the Freudenberg group