

# 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 mechanical 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



# Material Safety Data Sheet

Product name: ISOFLEX NBU 15 (# 004026)

Date: March 13, 2003

Replaces: May 2001

Page: 1 of 3

---

## Section 1 - Product and Company Identification

Company: Klüber Lubrication North America L.P.

32 Industrial Drive

Londonderry, N.H. 03053

Phone: (603)647-4104

Fax: (603)647-4105

Emergency telephone no.: 1-800-424-9300 (Chemtrec)

Product Use: High speed lubricating grease for rolling bearing applications

---

## Section 2 - Composition/Information on Ingredients

Ingredient	wt. %	TLV	PEL
Mineral Oil	Proprietary	5 mg/m <sup>3</sup> (Oil mist)	5 mg/m <sup>3</sup> (Oil mist)
Ester Oil	Proprietary	N/Ap	N/Ap
Synthetic hydrocarbon oil	Proprietary	N/Ap	N/Ap
Barium soap thickener	<40	N/Ap	N/Ap

---

## Section 3 - Hazards Identification

**Eye Contact:** May cause mild irritation upon immediate contact.

**Skin contact:** Prolonged or repeated contact may cause the removal of skin oils, possibly leading to irritation or dermatitis.

**Inhalation:** Not applicable under conditions of normal use. However, if product is heated beyond conditions of normal use, it may create a hazardous environment.

**Ingestion:** No acute or chronic effects expected. If swallowed, may cause irritation of the digestive tract.

---

## Section 4 - Emergency and First Aid Procedures

**After contact with eyes:** Flush eyes with plenty of water for 15 minutes. If irritation persists, or if an infection develops, seek medical attention.

**After contact with skin:** Wash off with soap and plenty of water. Apply skin cream if necessary. Seek medical attention if irritation or infection occurs. Remove contaminated clothing and wash before reuse.

**After inhalation:** Not applicable under normal conditions of use. If product is heated beyond intended use and overexposure results, remove victim to fresh air. Seek medical attention if necessary.

**After ingestion:** If large amounts are swallowed, do not induce vomiting. Seek medical attention.

**Advice to doctor:** Treat symptomatically.

---

## Section 5 - Exposure Controls

**Eye protection:** Wear safety glasses. Do not wear contact lenses when working with chemicals.

**Hand protection:** Wear chemical-resistant gloves.

**Body protection:** Wear clean, body-covering clothing to minimize dermal exposure.

**Ventilation:** Under normal conditions of use, no special ventilation is required. If product will be heated beyond conditions of normal use, use local ventilation.

**Respiratory protection:** No special respiratory protection is required. However, if product is overheated beyond conditions of normal use, wear the appropriate NIOSH-approved respiratory protection.

**Other protection measures:** Safety showers, eye wash fountains, and washing facilities should be readily available.

---



# Material Safety Data Sheet

Product name: ISOFLEX NBU 15 (# 004026)

Date: March 13, 2003

Replaces: May 2001

Page: 2 of 3

---

## Section 6 - Fire Fighting Measures

**Flash point:** > 200°C (Base Oil)

**Lower explosion limit:** N/Ap

**Upper explosion limit:** N/Ap

**Extinguishing media:** Water spray, foam, dry powder, carbon dioxide (CO<sub>2</sub>)

**Unusual fire and explosion hazards:** Empty metal containers retain product residue. Do not pressurize, cut, weld, drill, solder or expose container to heat, flame, sparks, or other sources of ignition: it may explode, causing serious injury or death.

**Special fire Fighting Procedures:** Use self-contained breathing apparatus for enclosed or confined spaces or as otherwise needed. Cool fire exposed areas and equipment.

---

## Section 7 - Accidental Release Measures

If product leaks or is inadvertently spilled, remove ignition sources and isolate surrounding spill area with the proper containment system to prevent the spill from reaching waterways. Add absorbent and soak up the product. Collect product and absorbent, place in a chemical waste container for proper disposal.

---

## Section 8 - Handling and Storage

Avoid contact with skin and remove soiled or soaked clothing. Wash hands with soap and water before eating, drinking, and/or smoking. Clean skin thoroughly after work and if necessary, apply skin cream.

Store product under normal temperature and pressure.

Store product away from heat sources and food products.

---

## Section 9 - Physical and Chemical Properties

**Boiling Point (°C):** N/Ap

**Vapor Pressure (mm Hg.):** N/Ap

**Solubility in Water:** Insoluble

**Specific gravity (H<sub>2</sub>O = 1):** 0.99, 20°C

**Evaporation rate (ether = 1):** N/Ap

**Appearance and odor:** Beige paste with a characteristic odor

---

## Section 10 - Stability and Reactivity

**Stability:** Stable

**Conditions to avoid:** Open flames and other sources of heat.

**Materials to avoid:** Strong oxidizers, such as pure oxygen.

**Hazardous decomposition products:** Fumes, smoke, carbon monoxide and carbon dioxide

**Hazardous polymerization:** Will not occur

---



# Material Safety Data Sheet

Product name: ISOFLEX NBU 15 (# 004026)

Date: March 13, 2003

Replaces: May 2001

Page: 3 of 3

---

## Section 11 - Toxicological Information

Acute: N/Av for the product.

Chronic: N/Av for the product.

---

## Section 12- Disposal Considerations

Under RCRA, it is the user's responsibility to determine, at the time of disposal, whether the product meets any of the criteria for a hazardous waste defined in 40 CFR 261. This product contains <40% of a barium compound and it may be considered RCRA hazardous waste (D005).

TCLP Test (Barium results-mg/l): 160.0 mg/l

---

## Section 13- Transportation Information

Proper Shipping Name	Hazard Class or Division	UN ID	Packing Group
N/Av			

---

## Section 14 – Regulatory Information

Barium compounds are subject to the release reporting requirements under SARA Title III, Section 313.

All product components comply with all applicable rules and orders under the Toxic Substance Control Act (TSCA).

---

## Section 15 - Additional Information

HMIS Rating: Health -1    Flammability - 1    Reactivity - 0    Personal Protection - B

Unk. = Unknown    N/Av = Not Applicable    N/Av = Not Available    ~ = Approximately