

# Klübersynth® GE 46-1200

## Synthetic Long-Term Gear Grease



### Description:

Klübersynth GE 46-1200 is a synthetic long-term gear grease suitable for a wide temperature range. It does not contain lead or solid lubricants, has a high load-carrying capacity and offers excellent protection against wear and corrosion.

### Application:

Klübersynth GE 46-1200 was developed especially for the lubrication of spur gears, bevel gears and worm gears with material pairings steel/steel (e.g. gear motors, small gears, gears in power tools). Furthermore, Klübersynth GE 46-1200 can also be used for the lubrication of ball and roller guides, rolling and sliding bearings as well as toothed couplings.

The dynamic stresses (sliding speed and high loads) the contact surfaces of design elements made of *aluminium* or *aluminium alloys* are exposed to may lead to increased wear. If necessary, wear tests should be carried out.

### Application notes:

Immersion lubrication of gears operating at circumferential speeds up to approx. 8 m/s or greasing of the tooth flanks of small gears.

The operating temperature\* range of Klübersynth GE 46-1200 for immersion lubrication is between – 30 °C and 120 °C. Adequate lubrication properties are ensured down to –50 °C.

#### Compatibility with Elastomers

72 NBR 902, 100 °C, 168 hrs:

Change in volume [%] < + 3  
Change in hardness [Shore A] approx. –3

### Minimum shelf life:

The minimum shelf life is approx. 24 months if the product is stored in the original closed container in a dry place.

### Package sizes:

1 kg can  
25 kg bucket  
180 kg drum

### Klübersynth GE 46-1200

- Synthetic long-term fluid gear grease
- Wide temperature range
- Protects effectively against corrosion
- Does not contain lead or solid lubricants
- High load-carrying capacity
- Offers excellent protection against wear

### Product data:

Colour, appearance	brown
Texture	homogeneous
Density, DIN 51 757, at 20 °C, g/ml, approx.	0.99
Drop point, DIN ISO 2176, °C	> 160
Consistency class	NLGI 00
Worked penetration, 0.1 mm	400 – 430
Base oil viscosity, DIN 51 561, at 40 °C, mm <sup>2</sup> /s, approx. DIN 51 561, at 100 °C, mm <sup>2</sup> /s, approx.	120 20
Apparent dynamic viscosity, Klüber viscosity grade**	EL
Copper corrosion DIN 51 811 after 24 hrs/100 °C	Corrosion rating 0/1 – 100
FZG test DIN 51 354 Pt 2, A/8, 3/90	load step > 12 specific loss in weight < 0.2 mg/kWh

\*\* 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

\* 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.

# Klübersynth® GE 46-1200

## Safety Data Sheet

<b>1.1 Product name: Klübersynth GE 46-1200</b> Code-No.: 027 035 27.06.2001	
<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> ++49 - 89 7876 - 0
<b>2. Composition / information on ingredients</b> Chemical characterization (preparation): Polyalkylene glycol oil, lithium soap	
<b>3. Hazards identification</b> No particular hazards known	
<b>4. First aid measures</b> After inhalation: Not applicable After contact with skin: Wash off with soap and plenty of water After contact with eyes: Rinse with plenty of water 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: No special storage conditions required Incompatible materials: Incompatible with oxidizing agents. Do not store together with food Further information on storage conditions: Store at room temperature in the original container	
<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> Form: paste Colour: brown Odour: characteristic Drop point: > 160 °C, DIN ISO 2176 Flash point: > 200 °C (base oil) Flammability: not applicable Ignition temperature: not applicable Autoflammability: 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> The toxicological data has been taken from products of similar composition Acute toxicity: LD <sub>50</sub> /oral/rat = > 2 g/kg (literature data) Chronic toxicity: None Human experience: 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: Aquatic toxicity is unlikely due to low solubility Additional information: Should not be released into the environment
<b>13. Advice on Disposal</b> Code of waste: 120 112, Wastes from shaping and surface treatment of metals and plastics; wastes from shaping (including forging, welding, pressing, drawing, turning, cutting and filling); spent waxes and fats Disposal: Can be incinerated when in compliance with local, state and federal regulations Dispose of contaminated packaging and recommended cleaning: Offer rinsed packaging material to local recycling facilities
<b>14. Transport information</b> GGVS / GGVE: not applicable ADN / ADN: not applicable IMDG-Code: not applicable ICAO / IATA-DGR: not applicable Further information: Not classified as dangerous in the meaning of transport regulations
<b>15. Regulatory information</b> Labelling according to EU-guidelines: The product does not require a hazard warning label in accordance with EC-directives/German regulations on dangerous substances National regulations
<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