

# PETAMO GHY 441

High Temperature/High Load Carrying Grease

Klüber Lubrication North America L.P.  
32 Industrial Drive  
Londonderry, NH 03053  
Tel: (603) 647-4104  
Fax: (603) 647-4106



## Major Applications:

- Rolling and plain bearings subject to high temperatures and/or high loads
- Pillow block bearings subject to high temperatures on billet furnaces
- Fan drive shaft bearings for drying ovens subject to high temperatures
- Bearings subject to high temperatures and high loads on wide bed rolling mills

## Feature:

- Synthetic base oil
- High viscosity
- Low apparent dynamic viscosity
- High penetration value (NLGI 1)

## Benefit:

- Ability to operate over a wide temperature range with an upper temperature limit beyond most competitive grease products
- High load carrying capacity, even at high temperatures
- Low bearing drag, easily pumpable in existing lubrication systems
- Suitable for rejuvenation of aged product during scheduled maintenance periods

**Method of Application:** Manual and automatic lubrication equipment

## Container Sizes:

1 kilogram can  
25 kilogram pail

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Article #094051

07/21/95

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## Technical Data:

<u>Characteristic</u>	<u>Typical Performance</u>	<u>Test Specification</u>
Base Oil	ester	
Thickener	polyurea	
Color	light beige	
Specific Gravity, 20°C	0.97	
Service Temperature Range, (°C)	-30 to 180	
Drop Point, (°C)	> 250	ASTM D 566 (DIN 51801/1)
Worked Penetration at 25°C (0.1 mm)	325	ASTM D 217 (DIN ISO 2137)
NLGI Grade	1	DIN 51818
Apparent Dynamic Viscosity shear rate 300 s <sup>-1</sup> at 25°C, (mPa•s)	4000	Rotary Viscometer Cone/Plate
Speed Factor, (nD <sub>m</sub> )	250,000	
Base Oil Viscosity, (mm <sup>2</sup> /s) at 40°C at 100°C	440 38	DIN 51561
Water Resistance 3 hours at 90°C, (rating)	0 - 90	
Corrosion Protection 1 week, distilled water, (rating)	0/1	DIN 51802 (EMCOR)
Rolling Bearing Life Testing FAG FE9 test machine 180°C, 6000 rpm Fa=1500 N L <sub>50</sub> (hours)	210	FAG FE9

These statements represent our present day information and are intended to describe our products and their applications. They are not, however, intended to guarantee particular properties of the products or their qualifications for specific applications. This information is also **confidential** to the recipient and may in no case, without **special permission** be transmitted to a **third party**, particularly competitors, either in its original form or as a copy or extract. The recipient of this data incurs the **obligation** to keep them **confidential** and to be **responsible for damage resulting** from infringements whereby Klüber Lubrication North America will not have to prove negligence.

# Material Safety Data Sheet

Product name: **Petamo GHY 441 (# 094051)**

Date: June 11, 2003

Replaces: October 1999

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## Section 1 - Product and Company Identification

Company: Klüber Lubrication North America L.P.

32 Industrial Dr.

Londonderry, N.H. 03053

Phone: (603) 647-4104

Fax: (603) 647-4105

Emergency telephone #: 1-800-424-9300 (Chemtrec)

Product Use: Lubricating grease Ü

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## Section 2 - Composition/Information on Ingredients

Ingredient	TLV	PEL
Ester Oil	N/Ap	N/Ap
Organic synthetic thickener	N/Ap	N/Ap

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## 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:** Vapor inhalation under ambient conditions will not occur. Vapor pressure is very low. The inhalation of vapors (generated at extremely high temperature only) or oil mist may cause a mild irritation of the mucous membranes of the upper respiratory tract. Harmful concentrations of mists and/or vapors are unlikely to occur through reasonable and customary use of this product.

**Ingestion:** No acute or chronic effects expected. However, minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury.

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## 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:** If overcome by product vapor heated to extreme temperatures, immediately move from exposure and get medical attention. If breathing is irregular, start resuscitation or administer oxygen if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

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

**Advice to doctor:** Treat symptomatically.

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## Section 5 - Exposure Controls

**Eye protection:** Wear safety goggles if splashes may occur. Do not wear contact lenses when using 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. However, if vaporized or misted and limits in Section 2 are exceeded, use local exhaust.

**Respiratory protection:** No special respiratory protection is required. However, if product is overheated beyond conditions of normal use, or misted, and the limits in Section 2 are exceeded, wear the appropriate NIOSH-approved respiratory protection.

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

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## Section 6 - Fire Fighting Measures

Flash point: >300°C (base oil)

Method Used: ASTM D 92

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. Exposure to heat builds up pressure in container. Cool with water spray.

Special fire Fighting Procedures: If leak or spill has not ignited, use water spray to disperse any vapor and to flush spills away from ignition sources. Use self-contained breathing apparatus for enclosed or confined spaces or as otherwise needed. Do not use direct stream of water, material may float and re-ignite.

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## Section 7 - Accidental Release Measures

If product leaks or is inadvertently spilled, eliminate ignition sources 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.

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## 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.

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## Section 9 - Physical and Chemical Properties

Drop Point: >250°C

Method: DIN ISO 2176

Vapor Pressure (mm Hg.): N/Ap

Vapor Density (Air=1): N/Av

Method: DIN 51757

Solubility in Water: Insoluble

Specific Gravity (H<sub>2</sub>O = 1): ~ 0.97

Evaporation rate (ether = 1): N/Ap

Appearance and odor: Beige grease with a characteristic odor

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## Section 10 - Stability and Reactivity

Stability: Stable

Conditions to avoid: Open flames and other sources of heat

Materials to avoid: Strong oxidizing agents such as pure oxygen

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

Hazardous polymerization: Will not occur



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## Section 11 - Toxicological Information

Acute toxicity: N/Av for this product.

Chronic toxicity: N/Av for this product.

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## 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. As a new product it would not be considered RCRA hazardous waste.

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## Section 13- Transportation Information

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

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## Section 14 - Regulatory Information

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

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## 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