

UNIMOLY® HTC METALLIC

High-temperature paste containing graphite and metal



Description:

UNIMOLY HTC METALLIC is a high-temperature lubricating and assembly paste containing graphite and metal.

It has a chemical composition of mineral oil, lithium soap and a solid lubricant mixture.

Its service temperature range is between – 25 °C and 1200 °C. Above a temperature of 150 °C the base oil evaporates and leaves a dry lubricating film.

The paste contains no lead, nickel, sulphur, barium and halogens.

Application:

UNIMOLY HTC METALLIC is suitable as a high-temperature paste for screws, nuts and bolts. The resulting dry lubricant film makes it possible to disassemble these machine elements without any problems.

In the pressure die casting industry this paste is used for the lubrication of ejector pins, core pullers and threaded connections.

In the plastic processing industry UNIMOLY HTC METALLIC is used as a lubricant for heated extruder heads and screw-on nozzles.

In addition, UNIMOLY HTC METALLIC has proven effective as an assembly paste for extrusion moulding dies and as a lubricant for spring washer components.

Application notes:

NOTE:

Always apply UNIMOLY HTC METALLIC in a thin layer!

Clean the friction point with a solvent and remove all residues and separating layers, such as corrosion protection agents, to ensure optimum adhesion of

UNIMOLY HTC METALLIC, then apply the paste evenly across the entire surface. In the case of machine screws make sure that the paste is also applied to the underside of the screw head. Only if the thread and the lower surface of the screw head are coated with the lubricant will it be possible to obtain an optimum preload force during tightening and to disassemble the parts even when they were subject to high temperatures.

For easier application use UNIMOLY HTC METALLIC Spray, the sprayable version of the paste.

In the case of pressed connections it is important to apply only a very thin layer to the metal surfaces.

When joining the connection excess paste will be forced out of the connection and might result in functional defects of adjacent components if there is a possibility that the excess lubricant slings off.

UNIMOLY HTC METALLIC

- Controls preloading
- Ensures easy disassembly even after the influence of high temperatures
- High pressure absorption capacity
- Prevents stick slip
- Meets the requirements set forth by automobile manufacturers (e.g. FORD Tox. No. 103.548, Peugeot/Talbot T 845.200.372)

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.

Package size:

0.7 kg can

Product data:

Colour	aluminium
Density DIN 51 757, at 20 °C, g/cm ³ , approx.	1.3
Service temperature range, °C	– 25 to 1200 dry lubrication above 150 °C
Consistency, NLGI grade	1, very soft
Flow pressure, DIN 51 805, at – 30 °C, mbar, approx.	1400
Four-ball test, DIN 51 350 Pt 4, N	> 4000

UNIMOLY® HTC METALLIC

Safety Data Sheet

1.1 Product name: UNIMOLY HTC METALLIC Code-No.: 011 055 28.03.2002
1.2 Klüber Lubrication München KG Geisenhausenerstraße 7 D-81379 München Tel. ++49 - 89 78 76 - 0 telephone exchange Fax: ++49 - 89 78 76 - 333 Emergency telephone no.: ++49 - 89 7876 - 0
2. Composition / information on ingredients Chemical characterization (preparation): Mineral oil, lithium soap, solid lubricants
3. Hazards identification No particular hazards known
4. First aid measures 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
5. Fire-fighting measures Suitable extinguishing media: Water spray, foam, dry powder, carbon dioxide (CO ₂) 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
6. Accidental release measures 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
7. Handling and storage 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 Further information on storage conditions: None
8. Exposure controls / personal protection 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

9. Physical and chemical properties Form: paste Colour: colour of aluminium Odour: characteristic Drop point: > 170 °C DIN ISO 2176 Flash point: > 220 °C (base oil) Ignition temperature: not applicable Lower explosion limit: not applicable Upper explosion limit: not applicable Vapour pressure-first: not applicable Density: approx. 1.30 g/cm ³ , 20 °C Water solubility: insoluble pH value: not applicable Kinematic viscosity: not applicable Further information: none
10. Stability and reactivity Conditions to avoid: None Materials to avoid: Strong oxidizing agents Hazardous decomposition products: None under normal use Additional information: None
11. Toxicological information The toxicological data has been taken from products of similar composition Acute toxicity: LD ₅₀ /oral/rat = > 2 g/kg (literature data) Chronic toxicity: None Human experience: Prolonged skin contact may cause skin irritation and/or dermatitis
12. Ecological information 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
13. Advice on Disposal 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. 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 Dispose of contaminated packaging and recommended cleaning: Offer rinsed packaging material to local recycling facilities
14. Transport information GGVS / GGVE: not applicable ADN / ADN: not classified IMDG-Code: 9 UN number: 3077 UN packaging group: III EMS: None Marine pollutant: PP Name: Environmentally hazardous substances, solid, n.o.s. (Copper metal powder) ICAO / IATA-DGR: 9 UN/ID number: 3077 ICAO-packaging group: III Name: Environmentally hazardous substances, solid, n.o.s. (Copper metal powder) Further information: None
15. Regulatory information 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
16. Other information 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