

Klüber Tyreno Fluids 3/6V, 6/14V, 12/25V

for low and fine vacuum applications (in mech. backing pumps)
and high vacuum applications (in diffusion pumps)

Description:

Klüber Tyreno Fluids 3/6V, 6/14V and 12/25V are perfluorinated polyether oils with very low vapour pressures suitable for vacuum pumps.

Application:

Klüber Tyreno Fluids based on perfluorinated polyether oils are technical operating materials for high-vacuum pumps. They have proven successful for the extraction of very aggressive media including oxygen.

Application notes:

Prior to first application, clean all the parts in contact with the fluids with white spirit 180/210 and afterwards with Klüberalfa XZ 3-1. Then blow them carefully with clean, dry compressed air or use hot air in order to remove all white spirit residues.

The application point has to be completely bright, i.e. free from any oil, grease, perspiration residues and contaminating particles. When used with oxygen, the filling process has to be "oxygen-clean".

We recommend contacting our application engineers to ensure maximum service life. Klüber Tyreno Fluids 3/6V, 6/14V, 12/25V are supplied as standard products based on the characteristics listed in this product information leaflet, the corresponding data sheet and the EU materials safety data sheet.

Minimum shelf life:

The minimum shelf life is 60 months if the product is stored in the closed original container in a dry place.

Pack units:

PE canister of 500 ml
PE canister of 1 l
PE canister of 2.5 l
PE canister of 5 l
PE canister of 10 l

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- For high-vacuum applications and low final pump pressures
- High chemical resistance
- BAM approval

Product data:

	3/6V	6/14V	12/25V
Base	perfluorinated polyether oils		
Colour, aspect	colourless, clear		
Density at 20 °C (g/cm ³), DIN 51 757	approx. 1.90	approx. 1.90	approx. 1.90
Viscosity at 40 °C/mm ² /s DIN 51 562, pt. 1	approx. 30	approx. 60	approx. 100
Flash point, °C, DIN ISO 2592	non-flammable		
Vapour pressure, 20 °C, mbar DIN 28 426	approx. 10 ⁻⁵	approx. 10 ⁻⁶	approx. 10 ⁻⁸
BAM Log. No.			
as sliding agent	4313/1984, 4-1598 I	5028/1985, 4-1751 I	4313/1984, 4-1598 II
as filling fluid	9254/85, 4-3169 I	9254/85, 4-3169 II	5204/1984, 4-1928

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Safety Data Sheet

1.1 Product name: a) Klüber Tyreno Fluids 3/6V b) 6/14V c) 12/25V Code-No.: a) 130 021 b) 130 022 c) 130 023 18.1.2000	9. Physical and chemical properties Form liquid Colour colourless Odour none Pour point a) < - 45 °C, b) < - 40 °C c) < - 35 °C, DIN ISO 3016 Flash point none °C, DIN ISO 2592 Flammability not applicable Ignition temperature not applicable Autoflammability not applicable Lower explosion limit not applicable Upper explosion limit not applicable Vapour pressure-first a) ~ 10 ⁻⁵ mbar, 20 °C b) ~ 10 ⁻⁶ mbar, 20 °C c) ~ 10 ⁻⁸ mbar, 20 °C Density approx. 1.90 g/cm ³ , 20 °C, DIN 51 757 Water solubility insoluble, g/l pH value not applicable Kinematic viscosity a) approx. 30 mm ² /s, 40 °C b) approx. 60 mm ² /s, 40 °C c) approx. 100 mm ² /s, 40 °C, DIN 51 562 Further information None
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	10. Stability and reactivity Conditions to avoid: None Materials to avoid: Strong bases, alkali metals, alkaline earth metals, Lewis acids Hazardous decomposition products: > 260 °C traces of fluorinated products Additional information: Some materials (e.g. titanium, aluminium or alloys of these materials) may cause lower decomposition temperatures
2. Composition / information on ingredients Chemical characterization (preparation): Fluorinated polyether oil Additional information: No hazardous ingredients	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
3. Hazards identification No particular hazards known	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
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. If swallowed or in the event of vomiting, risk of product entering the lungs	13. Advice on Disposal Disposal: Can be incinerated, when in compliance with the national regulations. Contains halogene Dispose of contaminated packaging and recommended cleaning: Offer rinsed packaging material to local recycling facilities
5. Fire-fighting measures Suitable extinguishing media: The product itself does not burn. Use extinguishing measures that are appropriate to the environment Special Hazards: In case of fire the following can be released: Traces of fluorinated products 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	14. Transport information 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
6. Accidental release measures Personal precautions: Risk of slipping due to leakage/spillage of product Environmental precautions: Do not flush into surface water or sanitary sewer system Methods for cleaning up / taking up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Dispose of absorbed material in accordance with the regulations Additional 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
7. Handling and storage Advice on safe handling: Avoid formation of aerosol Advice on protection against fire and explosion: No special precautions required Requirements on storage rooms and vessels: No special storage conditions required Incompatible materials: Do not store together with food Further information on storage conditions: Store at room temperature in the original container	16. Other information Issue-department of Safety Data Sheet: Chemical Documentation, Tel.: ++49 - 89 7876 - 564
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. Clean skin thoroughly after work; apply skin cream. Remove soiled or soaked clothing immediately. Do not inhale aerosol. Keep away from tobacco products	

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