

Klüber Tyreno Fluid S-04V

for high vacuum applications



Description:

Klüber Tyreno Fluid S-04V is a silicone oil.

Application:

Working fluid for diffusion vacuum pumps which have to meet high requirements in terms of oxidation stability and final vacuum; the final pump pressure is approx. 10^{-7} mbar in appropriate pump systems.

Application notes:

Prior to filling, clean pumps thoroughly to remove all solid residues. Avoid mixing with any other oils, especially mineral oil.

Minimum shelf life:

The minimum shelf life is 36 months if the product is stored in the original closed container in a dry place.

Pack units:

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

Klüber Tyreno Fluid S-04V

- Universal fluid, also in case of frequent air penetration
- Low backflow
- Regenerative

Product data:

Base	silicone oil
Colour, aspect	colourless, clear
Density at 20 °C (g/cm ³), DIN 51757	approx. 1.07
Viscosity at 25 °C DIN 51 562 pt. O 1, mm ² /s	approx. 38
Flash point, DIN ISO 2592, °C	> 200

Klüber Tyreno Fluid S-04V

Safety Data Sheet

1.1 Product name: Klüber Tyreno Fluid S-04V Code-No.: 130 030 18.1.2000
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): Silicone oil Additional information: No hazardous ingredients
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. If swallowed or in the event of vomiting, risk of product entering the lungs
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: 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
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: Incompatible with oxidizing agents. Do not store together with food Further information on storage conditions: Store at room temperature in the original container
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

9. Physical and chemical properties Form: liquid Colour: colourless Odour: none Pour point: ~ - 30 °C, DIN ISO 3016 Flash point: > 200 °C, DIN ISO 2592 Flammability: not applicable °C Ignition temperature: not applicable °C Autoflammability: not applicable Lower explosion limit: not applicable Upper explosion limit: not applicable Vapour pressure-first: approx. 10 ⁻⁷ mbar, 20 °C Density: approx. 1.07 g/cm ³ , 20 °C, DIN 51 757 Water solubility: insoluble, g/l pH value: not applicable Kinematic viscosity: approx. 40 mm ² /s, 25 °C, DIN 51 562 Further information: None
10. Stability and reactivity Conditions to avoid: Do not heat above flash point 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 Disposal: Dispose of in accordance with your local, state and federal regulations as used oil for incineration 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 applicable IMDG-Code: not applicable ICAO / IATA-DGR: not applicable Further information: Not classified as dangerous in the meaning of transport regulations
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