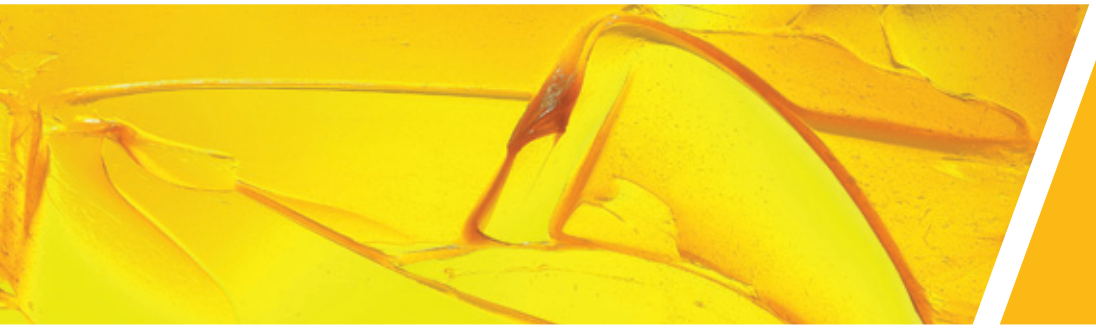
KLÜBER LUBRICATION

your global specialist

Detailed information

The recipe for your success.

Lubricant selection for applications in the food-processing industry



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Speciality lubricants for the food-processing industry –

reduce contamination risks, increase efficiency

Manufacturers of food products know that a good recipe is key to a good product. This applies both to the ingredients used for meat, bakery or dairy products and beverages and the operating materials used in the plant. Choosing the right lubricant based on a proven recipe pays off. Klüber Lubrication offers NSF H1 lubricants meeting your requirements.

Clean production ...

Day after day, one challenge is to avoid contamination of food products during manufacturing while making production processes as efficient as possible. Klüber Lubrication is able to support you with a wide range of lubricants especially designed to meet the requirements of the food-processing industry.
It is best practice to use specially registered and certified lubricants to keep contamination risks in the plant as low as possible and to ensure that the long-standing good reputation of your company is not jeopardised. This control of contamination risks is the key focus area in the HACCP guidelines. There are many applications in the food industry such as agitators, blowers, mixers, fillers, ovens, compressed air and packing machines, where the lubricant used in components could come into contact with food products. There is also the risk of using the wrong lubricant for the application and to bring lubricants unsuitable for food applications in contact with the food product.
We therefore recommend using NSF H1 lubricants exclusively for the entire production process.

... with high-performance NSF H1 lubricants made by Klüber Lubrication

Based on the specified raw material lists, NSF registration is made in two categories: NSF H1 lubricants are suitable for incidental contact with the food product. Lubricants according to NSF H2 are suitable for use where any contact between the food product and the lubricant is absolutely impossible. In addition to the above, there are also other categories like NSF 3H, NSF K1, NSF HT1 for products used for different applications like release agents, cleaners and heat-transfer fluids respectively.
The US-based National Sanitation Foundation (NSF) is in charge of registering lubricants for use in the food-processing industry.
Klüber Lubrication can provide the entire range of products for the food-processing industry with the necessary NSF registration.

Certified hygiene for the entire process

ISO 21469 is the international standard for the hygiene requirements for the formulation, manufacture and use of H1 lubricants used in the food-processing and pharmaceutical industries. The NSF developed a certification procedure on the basis of ISO 21469, which includes annual inspection of the lubricants-producing plant by an NSF auditor to check strict adherence to hygiene requirements, preventing contamination during the manufacture of H1 lubricants. Product samples are taken on an annual basis and analysed for contamination, and also lubricant packing, storage and use are evaluated during the audit. In order to get a plant certified under ISO 21469:2006, it may be necessary to make some changes in the manufacturing process calling for heavy investments to enable compliance. Klüber Lubrication was amongst the first few companies which were able to comply with the stringent requirements of this standard.
What this means to you, our customer, is that not only our products but the whole manufacturing process of our NSF H1 lubricants is certified. The whole process ensures complete protection against contamination during lubricant manufacturing.

High-performance lubricants pay off

Lubricants for the food-processing industry are subject to a multitude of requirements: on the one hand, they have to comply with food regulations, be physiologically inert, neutral in taste and odour and internationally approved. On the other, they also have to reduce friction and wear, protect against corrosion, dissipate heat and have a sealing effect. Selecting the right lubricant is therefore crucial when it comes to improving reliability and the service life of parts and components. The investment in high-quality lubricants pays off by reducing maintenance and operating costs in the long run.
In this brochure, you will find a selection of our food machinery lubricants, grouped according to their usual applications. These lubricants have proven their worth over the decades and have been further developed to adapt them for today's operating conditions and parameters.
We have the right solution for almost all applications. If there is a part or component that you don't find in this brochure, just contact one of our specialists for advice.

KlüberEfficiencySupport
Services by Klüber Lubrication - your success from one tool box

Every manufacturer and operator in every industry wants his machinery to run reliably and efficiently to its design life and beyond. The right lubricants carry considerable potential to reduce the energy costs, spare parts and labour while increasing productivity. Companies from many industries have been using Klüber Lubrication's professional services in addition to its high-quality lubricants to benefit from considerable added value and the optimum solution for their needs. Our consulting and other services are put together under the umbrella of KlüberEfficiencySupport.

- KlüberEnergy: consultant services for optimisation of the energy efficiency of your lubricant application; verification through energy measurements and reporting of cost saving

- KlüberMaintain: support for your lubricant management and maintenance programmes such as TPM[1] with regard to lubricants and the associated maintenance activities

- KlüberMonitor: increased productivity through used lubricant analyses. Recommendations for optimisation based on trend analyses and test rig results

- KlüberRenew: services for extending the life of your costly wear parts in large gear drives or chains supported by associated training

The methodology was developed by Klüber Lubrication, is tried-and-tested and consists of a multi-stage, systematic approach. We identify your requirements together with you at an early stage to discover potential for optimisation. From that we develop solutions together with you to improve the energy efficiency of your machinery or the efficiency of your maintenance and production processes, machines or components, going well beyond a simple lubricant recommendation. We also verify the effects our measures have in practice. This provides you with everything you need to multiply improvements and develop your success.

We are where you are

It is our aim to offer you high-quality speciality lubricants and services around the globe along with the high technical competence Klüber Lubrication is known for. We meet this aim through our worldwide network of production and sales companies, competent dealers and last, but not least, through our highly specialised experts ready to respond to your individual requirements.
We have compiled a selection of speciality lubricants and listed them according to modules and components. These lubricants have proven effective in the food-processing industry, some of them for decades.

1) Total Productive Maintenance

Rolling bearings

Service temperature range [°C]	**Speed factor** [n × dm] mm x min^{-1}	**Product characteristics**	**Klüber Lubrication Product**	**Certifications / registrations**	**Base oil / thickener**
–45 to 120	700 000	Smooth running grease with good low-temperature behaviour	Klübersynth UH1 14 -31	ISO 21469 NSF H1	synthetic hydrocarbon oil, ester oil/ aluminium complex soap
–40 to 140	500 000	Lubricating grease with wide temperature range	Klübersynth UH1 64-62	ISO 21469 NSF H1	synthetic hydrocarbon oil, ester oil, silicate
–45 to 120	500 000	Universal lubricating grease	Klübersynth UH1 14-151	ISO 21469 NSF H1	synthetic hydrocarbon oil / aluminuim complex soap
–35 to 120	400 000	Fully synthetic grease for applications subject to high loads	Klüberfood NH1 94-301	ISO 21469 NSF H1	synthetic hydrocarbon oil / calcium complex soap
–40 to 260	300 000	Long-term grease for high temperatures	BARRIERTA L 55/2	ISO 21469 NSF H1	PFPE / PTFE
–30 to 160	300 000	Heavy duty grease	Klüberfood NH1 94-402	NSF H1	synthetic hydrocarbon oil / calcium complex soap
–10 to 140	50 000	Special grease for low speed and high loads	Klübersynth UH1 64-1302	ISO 21469 NSF H1	synthetic hydrocarbon oil silicate

	Base oil viscosity DIN 51 562 T1 [mm²/s] at 40°C	100 °C	Colour	Consistency NLGI class DIN 51 818	Description and benefits
	30	6	White	1	– Excellent low-temperature behaviour. – Good water resistance. – Good corrosion and wear protection. – Suitable for friction points in freezing and deep-freezing tunnels. – Applicable through central lubrication systems. – For the lubrication of rolling and plain bearings, lifting cylinders, joints, seals, etc.
	65	10	Beige	2	– Good water resistance. – Good corrosion and wear protection. – For the lubrication of rolling bearings, lifting cylinders, joints, guide bars and cam discs.
	150	22	Beige	1	– Applicable through centralised lubrication systems. – Also available in NLGI 2 grade as Klübersynth UH1 14-222. – Good corrosion protection which reduces the risk of premature bearing failure. – Usable for wide service temperature range due to its soft consistency. – Suitable for application in rolling and plain bearings, lifting cylinders, joints, cam discs etc.
	300	30	Beige	1	– Good wear and corrosion protection which results in extended maintenance intervals and increased component life. – Good pumpability behaviour when used in centralised lubrication systems. – Versatile grease suitable for application in rolling and plain bearings, linear guides.
	420	40	White	2	– Proven high-temperature stability. – Very good resistance to aggressive media. – Good compatibility with plastics and elastomers. – For the lubrication of rolling and plain bearings and guide rails at high temperatures, e.g. wafer baking machines.
	400	40	Beige	2	– Excellent load-carrying capacity. – Very good corrosion protection and water resistance. – Applicable through centralised lubrication system for rolling bearings subject to high loads. – Excellent flow properties to ensure the lubrication point is reliably supplied with lubricant thereby extending component life.
	1 300	100	Beige	2	– Very adhesive. – Good wear protection. – Good water and steam resistance. – For highly loaded rolling and plain bearings at low speeds, joints, toothed racks, tubular tracks, stuffing boxes, highly loaded grease-lubricated chains, etc.

Gears

Gear oils

Product characteristics	Klüber Lubrication Product	ISO VG DIN 51 519	Service temperature range [°C]	Certifications / registrations	Base oil
Synthetic gear oil for low temperatures	Klüber Summit HySyn FG 32	32	–45 to 135	ISO 21469 NSF H1	synthetic hydrocarbon oil
Synthetic gear oils for normal temperatures	Klüberoil 4 UH1–150 N	150	–30 to 120	ISO 21469 NSF H1	synthetic hydrocarbon oil, ester oil
	Klüberoil 4 UH1–220N	220	–30 to 120		
	Klüberoil 4 UH1–320 N	320	–30 to 120		
	Klüberoil 4 UH1–460 N	460	–30 to 120		
	Klüberoil 4 UH1–680 N	680	–25 to 120		
Synthetic long-term gear oils for high temperatures	Klübersynth UH1 6-150	150	–35 to 160	ISO 21469 NSF H1	polyglycol oil
	Klübersynth UH1 6-220	220	–30 to 160		
	Klübersynth UH1 6-320	320	–30 to 160		
	Klübersynth UH1 6-460	460	–25 to 160		
	Klübersynth UH1 6-680	150	–25 to 160		

Gear greases

Product characteristics	Klüber Lubrication Product	Consistency NLGI class DIN 51 818	Service temperature range [°C]	Certifications / registrations	Base oil / thickener
Synthetic fluid gear grease	Klübersynth UH1 14-1600	00	–45 to 120	ISO 21469 NSF H1	synthetic hydrocarbon oil, ester oil, aluminium complex soap
Synthetic fluid gear grease	Klüberfood NH1 94-6000	000	–45 to 120	ISO 21469 NSF H1	synthetic hydrocarbon oil, ester oil, calcium complex soap

	Kinematic viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Description and benefits
	32	5.8	– Good oxidation stability due to the synthetic base oil, thus minimising oxidation residues and extending oil change intervals. – Suitable for the lubrication of low-temperature gear boxes e.g.: freezers, chillers.
	150	19	– Wide service temperature range,can be used for a wide range of applications in the food industry. – Good ageing and oxidation stability for longer oil life. – Good wear protection and load-carrying capacity – attains scuffing load stage > 12 in the FZG test. – Good corrosion protection, neutral towards sealing materials and paints. – For the lubrication of spur, bevel and worm gears.
	220	26	
	320	35	
	460	47	
	680	65	
	150	28.5	– High micropitting resistance offers sufficient protection to highly-loaded gears. – The good CLP-rated rolling bearing wear protection prevents premature bearing failure. – Much longer service life than mineral oils due to the excellent ageing and oxidation resistance of the base oil such that maintenance intervals can be extended and even lifetime lubrication is possible. – The reduced friction of the polyglycol base oil reduces power losses and improves efficiency – reducing power bills.
	220	41	
	320	56	
	460	78	
	680	115	

	Base oil viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Description and benefits
	160	21	– Suitable for application via centralised lubrication systems. – Good wear protection; attains scuffing load stage 11 in the FZG special test. – Good corrosion protection. – For splash lubrication of toothed and worm gears.
	60	10	– Good pumpability in long or narrow-bore central lubrication pipework due to its very soft consistency. – Reduced wear and extended maintenance intervals due to good load-carrying capacity and good corrosion protection. – Load stage >12 in the FZG special test. – Good low-temperature characteristics enable use in refrigerated environments.

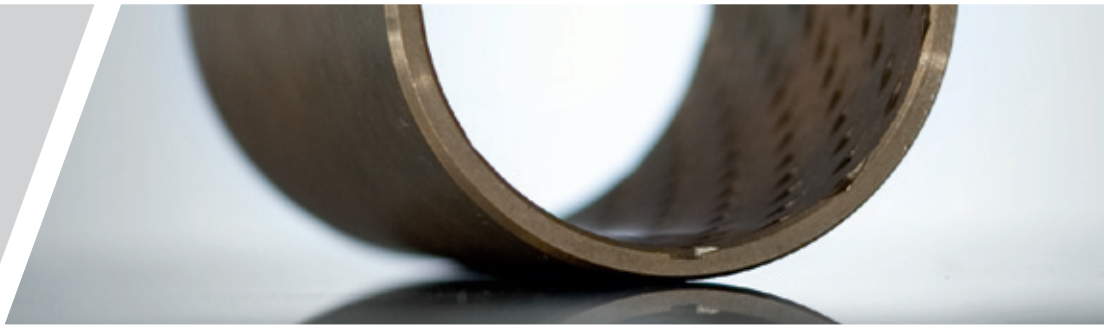
Chains

Service temperature range [°C]	**Product characteristics**	**Klüber Lubrication Product**	**ISO VG** DIN 51 519	**Certifications / registrations**	**Base oil**
–45 to 135	Low-temperature oil	Klüber Summit HySyn FG 32	32	ISO 21469 NSF H1	synthetic hydro-carbon oil
–35 to 120	Low-temperature oil	Klüberoil 4 UH1 68 N	68	ISO 21469 NSF H1	synthetic hydro-carbon oil, ester oil
–30 to 120	Lubricating oil for normal temperatures	Klüberoil 4 UH1 460 N	460	ISO 21469 NSF H1	synthetic hydro-carbon oil, ester oil
–20 to 250	High-temperature chain oil	Klüberfood NH1 CH 2-75 Plus	75	NSF H1	ester oil
–15 to 260		Klüberfood NH1 CH 2-260 Plus	260		ester oil
–30 to 120	Special chain oil for chains in high humid areas	Klüberfood NH1 C 8-80	80	ISO 21469 NSF H1	semi-synthetic
–20 to 120	Highly viscous lubricat-ing oil	Klüberoil 4 UH1 1500 N Spray	1 500	ISO 21469 NSF H1	synthetic hydro-carbon oil, ester oil
–40 to 135	Special oil for conveyor chains in beverage industry	Klüberfood NH1 C 4-58	46	ISO 21469 NSF H1	synthetic hydrocarbons
–40 to 135	Sugar-dissolving oil for the confectionery industry	Klüberfood NH1 1-17	–	ISO 21469 NSF H1	mineral oil
0 to 60	Special synthetic sugar-dissolving oil for the confectionery industry	Klüberfood NH1 6-10	12	ISO 21469 NSF H1	PAG
–15 to 80		Klüberfood NH1 6-180	170		PAG

	Kinematic viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Description and benefits
	32	5.8	– Specially recommended for operating in lower temperature chains, e.g: freezers, chillers.
	68	11	– Good wear protection, high load-carrying capacity. – Suitable for lifting, drive and transport chains.
	460	47	– Good wear protection, load-carrying capacity and corrosion protection. – For lifting, drive and transport chains,spindles and joints.
	75	11	– Special base oils ensure reliable lubrication at high temperatures. – Good corrosion protection due to special base oil and additive package for high temperatures. – Low evaporation rate compared to many other ester oils used in the food industry.
	260	21	
	80	10	– Good stability in high humidity environments to support optimum chain life for conveyor and drive chains.
	1 500	125	– Good wear protection and high load-carrying capacity. – Good corrosion protection properties. – High ageing and oxidation stability, leading to longer life of the oil. – Suitable for lifting, drive and transport chains.
	46	7.7	– Suitable for conveyor chains in the beverage industry to replace water-based soap solutions. – Reduces bacterial contamination and water consumption resulting in safer working environment. – Can be applied through centralised lubrication systems.
	–	–	– Sugar-dissolving oil without taste or odour. – Reduces sugar build-up on chains for increased life, allowing oil penetration to the friction points.
	12	–	– Ready to use, stable aqueous solution of special synthetic lubricating fluid for applications in the food-processing industry, especially in confectionery. – Good penetrative and corrosion protection properties contribute to reduced wear and component costs. – Reduces sugar build-up on chains for increased life, owing to increased oil penetration to the friction points. Helps to reduce contaminational levels due to over-lubrication.
	170	–	

Plain bearings

Service temperature range [°C]	**Product characteristics**	**Klüber Lubrication Product**	**Certifications / registrations**	**Base oil viscosity** DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C
–45 to 120	Lubricating grease for universal application	Klübersynth UH1 14-151	ISO 21469 NSF H1	150	22
–45 to 120	White lubricating paste	Klüberpaste UH1 84-201	ISO 21469 NSF H1	200	75
0 to 60	Sugar-dissolving oil	Klüberfood NH1 6-10	ISO 21469 NSF H1	12	–



	Base oil / thickener	Consistency NLGI-Klasse DIN 51 818	Description and benefits
	synthetic hydrocarbon oil, ester oil / aluminium complex soap	1	– Good corrosion protection reducing the risk of premature bearing failure. – Usable for wide service temperature range due to its soft consistency. – Applicable through centralised lubrication systems. – Suitable for application in rolling and plain bearings, lifting cylinders, joints,cam discs etc.
	synthetic hydrocarbon oil / PTFE	1	– Universal white assembly and screw paste, free of metals, neutral towards alloyed steels. – Excellent low-temperature behaviour. – Good load-carrying capacity, good corrosion protection. – Suitable for low-speed plain bearings, guide rails, hinges, rollers etc.
	polyalkylene glycol oil	–	– Suitable for friction points subject to sugar, such as rocking levers, chain links, sensors, levers, etc. – Good penetrative and corrosion protection properties contribute to reduced wear and component costs. – Reduces sugar build-up around bearings for increased lifetime owing to increased oil penetration to the friction points. Helps to reduce contaminational levels due to over-lubrication.

Compressors
Vacuum pumps

Compressors

Application	**Klüber Lubrication Product**	**ISO VG** DIN 51 519	**Certifications / registrations**	**Service temperature range** [°C]	**Base oil**
Air compressors	Klüber Summit FG 100, 200, 250, 300, 500	32 ... 150	ISO 21469 NSF H1	–45 to 120	synthetic oil
Refrigeration compressors	Klüber Summit R 100, 200, 300	32 ... 100	ISO 21469 NSF H1	–50 to 120	synthetic hydrocarbon oil

Vacuum pumps

Application	**Klüber Lubrication Product**	**ISO VG** DIN 51 519	**Certifications / registrations**	**Service temperature range** [°C]	**Base oil**
Vacuum pumps	Klüber Summit FG 300	100	ISO 21469 NSF H1	–35 to 120	synthetic hydrocarbon oil

	Kinematic viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Description and benefits
	32 ... 150	5.8 ... 19	– Special compressor oils developed for the food-processing industry. – Low tendency to evaporate which results in low impact of oil vapour on the compressed air. – Available in ISO VG 32, 46,68,100 and 150. – To be used for oil-injected screw-type compressors, reciprocating piston compressors and rotary vane compressors. – Also suitable for gear lubrication in oil-free screw-type compressors.
	32 ... 100	5.9 ... 14.5	– Specially designed for highly loaded screw-type and reciprocating piston compressors with ammonia (R717) or CO_2 (R744) refrigerant. – Can also be used with natural hydrocarbon refrigerants like propane (R290), propylene (R1270) or butane (R600.) – Offer extended oil change intervals, reducing maintenance and lubrication costs. – Available in ISO VG 46,68,100,220 and special 400 viscosity. – Klüber Summit R 200 is recommended for CO_2 referigerant screw compressors. – Klüber Summit R 300 is recommended for ammonia reciprocating compressors.

	Kinematic viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Pourpoint DIN ISO 3016 [°C]	Description and benefits
	100	13	≥ –45	– Good oxidation stability, miminising oxidation residues and extending oil change intervals.

Pneumatics
Hydraulics

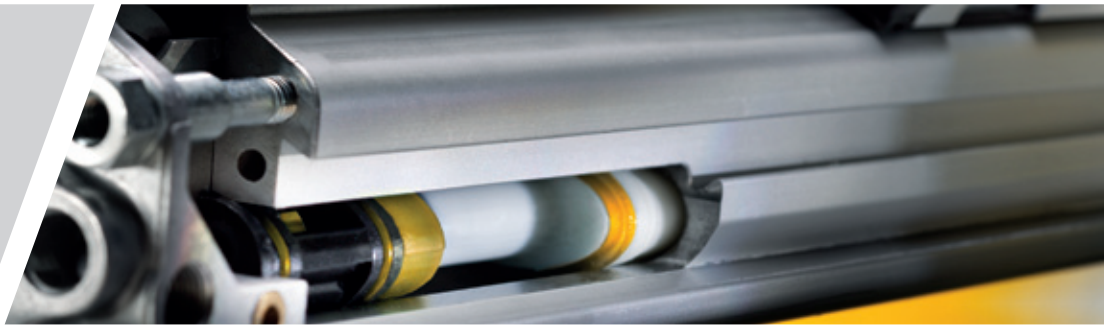
Pneumatics

ISO VG DIN 51 519	**Product characteristics**	**Klüber Lubrication Product**	**Certifications / registrations**	**Service temperature range** [°C]	**Base oil**
15	Special oil for pneumatic components	Klüber Summit HySyn FG 15	ISO 21469 NSF H1	–45 to 100	synthetic hydrocarbon oil
32	Special oil for pneumatic components	Klüber Summit FG 100	ISO 21469 NSF H1	–50 to 120	synthetic hydrocarbon oil
–	Special grease for pneumatic drives and sealing elements	Klübersynth AR 34-401	ISO 21469 NSF H1	–30 to 140	synthetic oil /calcium soap

* Base oil viscosity

Hydraulics

ISO VG DIN 51 519	**Product characteristics**	**Klüber Lubrication Product**	**Certifications / registrations**	**Service temperature range** [°C]	**Base oil**
46	Hydraulic oil	Klüberfood 4 NH1 46	ISO 21469 NSF H1	–40 to 135	synthetic hydrocarbon oil



	Kinematic viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Description and benefits
	15	3,5	– Special oil for filter regulator lubrication (FRL) units in pneumatic components.
	32	5.8	– Special oil for filter regulator lubrication (FRL) units in pneumatic components.
	400*	40	– Specially made for pneumatic cylinders, providing low breakaway torque, even after long periods of standstill ("Monday morning effect"). – Suitable for all types of pneumatic elastomer seals.

	Kinematic viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	100 °C	Description and benefits
	46	7.7	– Synthetic base oil provides good oxidation stability. – Good stability at low temperatures. – Protection against friction and wear. – Meets HLP requirements acc. to DIN 51524 part 2. Also available in ISO VG 32, 68 & 100.

Valves
Mechanical seals

Valves

Product characteristics	Klüber Lubrication Product	Certifications / registrations	Service temperature range [°C]	Base oil / thickener	Compatible with the following elastomer types
Sealing grease for valves and fittings	PARALIQ GTE 703	ISO 21469 NSF H1	–50 to 150	silicone oil / PTFE	EPDM.FPM.NBR
Sealing grease for valves and fittings	Klübersynth UH1 64-2403	ISO 21469 NSF H1	–10 to 140	synthetic hydrocarbon oil / silicate	NBR
Sealing grease for valves and fittings in sterile environments	Klüberfood NH1 87-703 Hyg	ISO 21469 NSF H1	–45 to 150	synthetic hydrocarbon oil / silicate	EPDM.FPM.NBR
Special lubricating grease for drinking water, beverage and heating valves	UNISILKON L 250 L	ISO 21469 NSF H1	–45 to 160	silicone oil / PTFE	EPDM.FPM.NBR
Special soft grease for sanitary beverage and heating valves	Klüberbeta VR 67-3500	ISO 21469 NSF H1	–40 to 140	silicone oil / slicone	EPDM.FPM.NBR

Mechanical seals

Application	Certifications / registrations	Klüber Lubrication Product	Base oil
Mechanical Seals	NSF H1	Klüberfluid NH1 4-005	synthetic hydorcarbon oil
	NSF H1	Klüberoil 4 UH1 – 15 AF	synthetic hydorcarbon oil
	NSF H1	PARALIQ P 12	medical white oil acc. to the European Pharmacopoeia

	Consistency NLGI-Klasse DIN 51 818	Description and benefits
	3	– For use in bottling machine seals. Resistant to disinfectants and cleaning agents. – Does not affect beer froth formation, resistant to hot and cold water. – Neutral in odour and taste.
	3	– Allows reliable operation of beverage taps. Neutral to taste and beer froth. – Offers very good resistance to hot and cold water and steam, extending maintenance intervals.
	3	– Special lubricating grease based on high viscosity silicone oils and PTFE solid lubricants. – Antimicrobial additive protects the grease against microbial degradation allowing extended service intervals.
	3	– Special lubricant based on silicone oil and PTFE with high thermal stability. – Supports long-term protection of seals and bearings owing to its good resistance to numerous media like disinfectants, cleaning agents,water and steam.
	00	– The soft consistency of Klüberbeta VR 67-3500 and the use of special silicone oils ensure reliable operation over a wide temperature range for sanitary, beverage and heating valves and taps.

	Service temperature range [°C]	Description and benefits
	–40 to 150	
	–40 to 110	– The suitable viscosity for mechanical seals depends on the speed (normal speeds range between 1500 and 3000 rpm). – Neutral towards many NBR and FKM elastomer types.
	–10 to 60	

Screws
Corrosion protection

Screws

Product characteristics	Klüber Lubrication Product	Certifications / registrations	Service temperature range [°C]	Base oil / thickener
Lubricating and assembly paste for normal and low temperatures	Klüberpaste UH1 84-201	ISO 21469 NSF H1	–45 to 120	synthetic hydrocarbon oil / PTFE
High-temperature lubricating and assembly paste	Klüberpaste UH1 96-402	ISO 21469 NSF H1	–30 to 1 200	polyalkylene glycol oil/ silicate

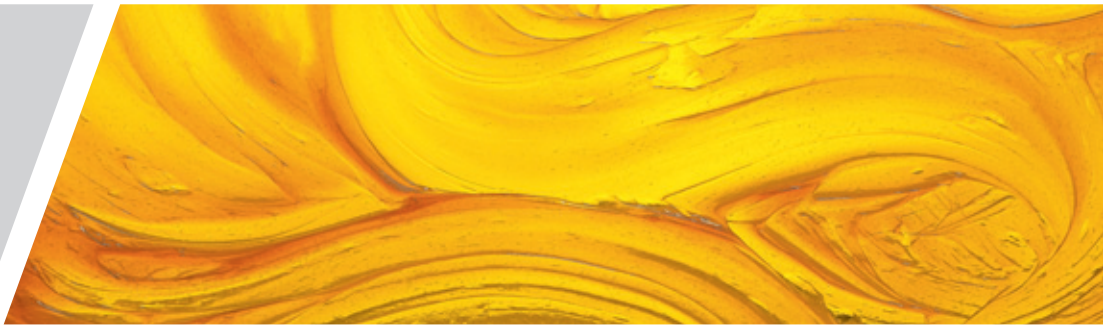
Corrosion protection

Product characteristics	Klüber Lubrication Product	Certifications / registrations
Anti-corrosion lubricant for the food-processing industry	Klüberfood NH1 K 32	ISO 21469 NSF H1
Cleaner & degreaser for the food-processing industry	Klüberfood NK1 8-001 Spray	ISO 21469 NSF K1 & NSF K3
Water displacement product for the food-processing industry	Klüberfood NH1 4-002 Spray	ISO 21469 NSF H1

	Base oil viscosity DIN 51 562 part 1 [mm²/s] at 40 °C	Four-ball tester welding load DIN 51 350 [N]	Description and benefits
	200	> 3 000	– Universal white assembly and screw paste, free of metals, neutral towards alloyed steels. – Excellent low-temperature behaviour. – Good load-carrying capacity, good corrosion protection. – Assembly and screw paste suitable for low-speed plain bearings, for guide rails, hinges, rollers, etc.
	360	> 2 500	– Lubricating paste for guide rails, hinges etc. and for use as assembly paste for bolts, pins, bushings etc. – Good high-temperature properties. – Good corrosion protection: Free of metals, neutral towards alloyed steels.

	Description and benefits
	– Transparent "grease-like" anticorrosive film for the protection of ferrous metals. – Provides good anti-corrosion protection for wet areas subject to frequent wash down. – Operating temperature range 0 to 80 °C. – Also available as spray.
	– Organic solvent cleaning agent. – Oil, grease, wax and resin residue remover compatible with plastics and metals. – Particularly suitable for degreasing tools and components.
	– Special oil spray neutral in odour and taste. – Good penetrating and water displacement properties, not for use on live electrics.

Notes



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All the products in this brochure are NSF H1 registered and therefore comply with FDA 21 CFR § 178.3570. The lubricants are developed for incidental contact with products and packaging materials in the food-processing, cosmetics, pharmaceutical or animal feed industries. The use of all the lubricants can contribute to increased reliability of your production processes. We nevertheless recommend conducting an additional risk analysis, e.g. HACCP.

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Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

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