





FUCHS LUBRICANTS CO.

Facts and figures

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NORTH AMERICAN PLANT LOCATIONS:

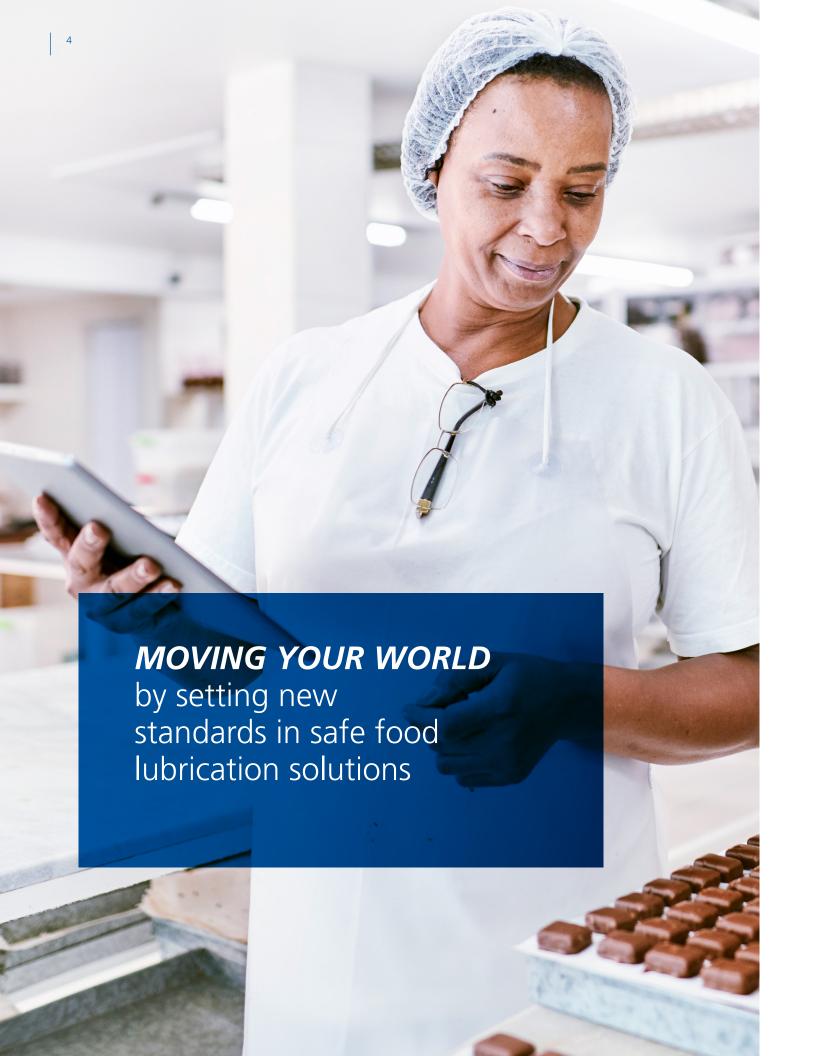
New Castle, DE; Harvey, IL; Kansas City, KS; Fairhaven, MA; Huntington, WV; Langley, BC; Cambridge, ON; Querétaro, Qro., MX

Since 1931, we have been pursuing the same goal: to keep the world moving. With innovative and technological lubricant solutions that have a sustainable impact on the future. Unconditional reliability is our top priority, it is the foundation of our company and the basis for everything that defines us.

Reliability is both a driver and a demand. And it's a promise to all our customers in the fields of automotive suppliers and OEMs, mechanical engineering, metal processing, mining and exploration, aerospace, energy, construction and transport, agriculture and forestry, as well as the paper, steel, metal, cement, forging and food industries, qualified lubricant dealers, car dealerships and workshops.

Long-term experience, high development strength and the fulfillment of far-reaching standards are the basis for the special quality of our world-leading product brands. We deliver solutions that are simply more efficient and therefore more sustainable. We always think in holistic solutions. For the development of individual solutions, we enter into an intensive customer dialog with you. This is the way we live up to our claim of moving your world.

MOVING YOUR WORLD



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ABOUT FUCHS FOOD GRADE PRODUCTS

FUCHS – Your One Stop Provider

MOVING YOUR WORLD forward – to us, this idea is both a commitment to our customers and an obligation to ourselves. Our aim is not only to be the No 1 provider in safe food lubrication solutions but also to actively shape this market with our ideas and innovations. We achieve this on the basis of four pillars:

Supreme safety standards

Outstanding technical expertise

3 Unconditional reliability

Your direct way to the solution



SUPREME safety standards

In the world of food and safe products, the safety of the end consumer is the most important aspect. The requirements in this area are very specific, detailed and complex. The highest possible safety standards are the result of strict compliance with these requirements throughout the entire production and use phase. All certifications and individual approvals require intensive cooperation and partnership with official organisations established for this purpose, such as NSF, EHEDG, BRC, IFS etc. It also requires a deep and comprehensive understanding of

the underlying processes, equipment designs and requirements for food and safe production. Our food grade products embody all this and are the most recognised brands in the world. Depending on their application, all our products are listed in the NSF (National Sanitation Foundation) White Book. And all the important and necessary certifications such as ISO 21469, Kosher and Halal are in place. In short, FUCHS Food Grade products are state-of-the-art lubricants, processing substances, cleaners and degreasers that meet the highest safety standards.

NSF registered ISO certified



Kosher certified

Halal certified

In Partnership with















Our international customers need partners that understand global manufacturing processes. Creating uniform standards at different sites with different situations, e.g. in terms of machinery, raw material availability, legal requirements, etc., is a challenge that extends far into the supply chains. As the world's largest independent global supplier of lubrication solutions, with a large number of production sites around the world, we have mastered this task perfectly. Thanks to our comprehensive and globally available portfolio of food-grade and non-food-grade lubricant solutions, we are able to meet all of our customers' needs and anticipate upcoming ones. This means that they don't have to make detours through fragmented distribution networks. And that is what we mean by being a one-stop provider.

The Food Grade product line of FUCHS offers a comprehensive range of high performance lubricants, process substances, cleaners and degreasers for the food and safe industry. The composition of each product is always optimised to ensure maximum suitability for the respective application. This product catalogue presents our product portfolio and gives an overview of the wide range of Food Grade products. The food experts in the FUCHS team or your local sales partner will be happy to help you find the best products for your application. You will receive individual, competent advice and recommendations for the products best suited to meet your requirements.

Outstanding technical expertise

FUCHS is setting new standards by understanding our customers as well as our products. Substantial technical know-how, consisting of in-depth application knowledge and a high level of R&D expertise, are the basis of our work. But what are the conditions for this? For us, the key is to really understand the customer on the one hand and our product on the other. We understand the amount of processes involved in industrial food production. A variety of challenges that can be addressed with an even greater variety of solutions in the field of lubrication. Understanding our customer's highly specific requirements and then finding the best way to solve them - that's what it's all about. We commit our global workforce, our experience and our knowledge of all the machines, all the application, all the processes. All in service of a singleminded goal: to always provide our customers with the perfect solution that improves their business.

Industries served by FUCHS Food Grade Products



Beverage and Brewing



Meat and Poultry



Food Packaging



Dairy



Bakery and Confectionary



Food Logistics



Animal feed



Edible oil processing



Pharma & Cosmetics

Let's find the direct way to your solution

- The most comprehensive product portfolio
 - Wherever you are FUCHS is your one stop partner

CASSIDA
Rivolta
SUPERLA

Guide to Symbols



Roller bearings



Can seamers and sterilisers



Extreme pressure



Compressors



Slideways



Anti-corrosive



Coating applications



Plain bearings



Chains



Industrial coolants



Direct food contact



Mounting/assembling/ disassembling aid



NSF registered



Guides, rails, and sliders



Flushing



Conveyors



Heat transfer



Sugar dissolving



Maintenance aid



Food safety products



Forming and necking applications



High temperature



Gears – open



Hydraulics



Vacuum pumps



Worm gears



Packaging



Low temperature



Gears – enclose



Valves, taps and fittings



Maintenance spray



Linkages, pins



Direct food contact

CASSIDA FLUIDS

CASSIDA lubricating fluids based on fully synthetic base oils are developed to meet related industry specifications and to fulfil the stringent guidelines governing food-compatible lubricants. The high-performance lubricating fluids of the CASSIDA range enable the efficient operation of demanding manufacturing processes, a higher degree of utilisation of machines and a reduction in maintenance costs. They are used in various branches of the food and beverage industry.

FUCHS's extensive range of food grade lubricating fluids offers the user a wide choice of CASSIDA-branded products for lifetime and total loss lubrication. In addition to mineral-oil-based fluids, a very diverse selection of synthetic lubricating fluids are available for a wide range of applications in the food and beverage industry.

These high-performance lubricating fluids enable the efficient operation of demanding production and manufacturing processes, a higher degree of utilisation of machines and a reduction in maintenance.

FUCHS researches constantly to increase performance and offer optimum lubricating fluids for maximum safety in Food Grade applications.



Product Range



CASSIDA Fluids (fully synthetic)

hain Oils	
ASSIDA CHAIN OIL 150 1500 SPRAY1	16
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ASSIDA CHAIN OIL XTE	16
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CHAIN OILS

CASSIDA CHAIN OIL 150 | 1500 Spray

	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA CHAIN OIL 150	150	19	-30 to +140 (upper peak: +150)	-
CASSIDA CHAIN OIL 1500 SPRAY	1500	135	-	-
Fully synthetic, very high-performance chain oils. Highly resistant to fling-off or wash-off. Excellent protection against wear and corrosion.			e and transport chains in lubrication systems or spr	the food industry. Can be raying.

*after evaporation of solvent

CASSIDA CHAIN OIL HT 220

Ø -── NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range oven [°C]	Specifications	
CASSIDA CHAIN OIL HT 220	220	20	-20 to +250	-	
Fully synthetic, ester-based, high-temperature chain lubricant	Main application: Drive and transport chains in the food industry. Also intended for use in equipment for manufacturing food packaging.				

CASSIDA CHAIN OIL XTE

NSE	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range oven [°C]	Specifications	
CASSIDA CHAIN OIL XTE	194	18	-20 to +300		
Fully synthetic high-temperature chain lubricant with exceptional thermal stability.	Main application: Drive and transport chains in the food industry (e.g. bakeries). Also intended for use in equipment for manufacturing food packaging.				

COMPRESSOR FLUIDS

CASSIDA FLUID CR 100

OD SO NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FLUID CR 100	100	14	-30 to +100 (upper peak: +120)	DIN 51506 VBL, VCL, VDL
Fully synthetic, very high-performance, long-life compressor oils. Meet DIN 51506 VBL, VCL, VDL and ISO 6743-3A DAH, DAG, DAJ specifications.	Main application plants.	n: Oil-flooded rotary	vane and screw air com	npressors in food processing

CASSIDA FLUID CRE 46

(a))+-((a) (i) (ii) (ii)	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FLUID CRE 46	46	7.6	-30 to +100 (upper peak: +120)	DIN 51506 VBL, VCL, VDL
Advanced synthetic screw compressor lubricant with extraordinary thermo-oxidative stability. Excellent frictional properties promoting energy reduction, increased purity of plant air through low volatility improving manufactured product integrity, and reduced overall lubricant consumption by offering an industry-leading service life of up to 8000 hours in defined environmental conditions.		n: Screw and vane co ubrication including li		nti-friction bearings and

CASSIDA FLUID RF 68

	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications	
CASSIDA FLUID RF 68	68	9.7	-40 to +100 (upper peak: +140)	DIN 51501-1	
Fully synthetic lubricants for refrigeration compressors used in the food industry.	Main application: Recommended for use in open- and semi-open compressors, both screw and reciprocating types. Designed for applications with ammonia (R717), offering excellent performance under high and low evaporation temperatures. Can also be used with halogenated hydrocarbons (R22) and isobutane (R600a).				

GEAR FLUIDS

CASSIDA FLUID GL 150 | 220 | 320 | 460 | 680

(Signature) NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FLUID GL 150	150	19	-45 to +140 (upper peak: +150)	DIN 51517 CLP / DIN 51506 VBL, VCL
CASSIDA FLUID GL 220	220	25	-40 to +140 (upper peak: +150)	DIN 51517 CLP / DIN 51506 VBL
CASSIDA FLUID GL 320	320	33	-35 to +140 (upper peak: +150)	DIN 51517 CLP
CASSIDA FLUID GL 460	460	44	-35 to +140 (upper peak: +150)	DIN 51517 CLP
CASSIDA FLUID GL 680	680	59	-30 to +140 (upper peak: +150)	DIN 51517 CLP
Fully synthetic, very high-perfomance, long-life, anti-wear gear oils. Meet DIN 51517 CLP and ISO 6743/6 specifications.	Main application: Suitable for gearboxes on food handling and processing equipment. May also be used for general machine lubrication, for example, on chains.			

CASSIDA FLUID GLE 150 | 220

CO S INST	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FLUID GLE 150	150	19	-40 to +140 (upper peak: +150)	DIN 51517 CLP
CASSIDA FLUID GLE 220	220	25	-40 to +140 (upper peak: +150)	DIN 51517 CLP
Tully synthetic high performance anti-wear gear fluids for	Note that the second second second			s including both anclosed a

Fully synthetic, high-performance, anti-wear gear fluids for use in the food canning industry. Provides excellent lubrication, even when operating in locations where the product may be subject to contamination with water, juice and food. CASSIDA FLUID GLE holds these contaminants in suspension, thus protecting metal surfaces from wear and corrosion. Approved by Angelus Sanitary Can Seaming Company for can seamer lubrication.

Main application: Lubrication of rotary can seaming machines, including both enclosed and total loss systems, and for circulating and bearing oil systems where contamination with water or food juices can occur.

CASSIDA FLUID WG 220 | 320 | 460 | 680

NSF NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FLUID WG 220	220	61	-35 to +160	DIN 51517 CLP
CASSIDA FLUID WG 320	320	61	-35 to +160	DIN 51517 CLP
CASSIDA FLUID WG 460	460	83	-30 to +160	DIN 51517 CLP
CASSIDA FLUID WG 680	680	122	-25 to +160	DIN 51517 CLP

Fully synthetic, high-performance gear lubricants for worm gearboxes. High resistance to micro-pitting. Provides exceptional thermal stability and corrosion protection. Exceptional low-friction characteristics providing efficient power transmission. Meet DIN 51717 CLP and ISO 6743/6 specifications.

Main application: For the lubrication of worm gearboxes in food processing plants. Ideal for all worm gear applications. Suitable for use in situations where equipment gets routinely cleaned before and after use and where water might enter the lubricant.

HYDRAULIC OILS

CASSIDA FLUID HF 32 | 46 | 68 | 100

=(7)= (8) NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FLUID HF 32	32	6	-60 to +140 (upper peak: +150)	DIN 51524 HLP, HVLP
CASSIDA FLUID HF 46	46	8	-59 to +140 (upper peak: +150)	DIN 51524 HLP, HVLP
CASSIDA FLUID HF 68	68	11	-52 to +140 (upper peak: +150)	DIN 51524 HLP, HVLP DIN 51517 CLP
CASSIDA FLUID HF 100	100	14	-45 to +140 (upper peak: +150)	DIN 51524 HLP, HVLP DIN 51517 CLP

Fully synthetic, high-performance, long-life, anti-wear hydraulic oils. Meet ISO 6743/4 HM, DIN 51524 HLP, HVLP and DIN 51517 CLP (ISO 68 and ISO 100) specifications.

Main application: Hydraulic systems, hydrostatic gears and control systems, plain and anti-friction bearings on food handling and processing equipment.

MAINTENANCE FLUIDS and SPECIALTIES

CASSIDA SILICONE FLUID Spray

	Viscosity at 25°C [mm²/s]	Viscosity at 40°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA SILICONE FLUID Spray	1000*	730*	-40 to +200 (upper peak: +220)	
Silicone-based, fully synthetic, multipurpose fluid. Thermal stability up to 250°C. Excellent adhesive properties minimise fling-off in use and wash-off by both cold and hot water. Readily displaces water. Formulated for use on metal-to-			conveyors; slow rotatin d in equipment in the f	g machinery; small, slow- ood industry.

*without propellant

CASSIDA COOLANT 5 NA

with food or beverage may occur.

(*) ISF	Viscosity at 20°C [mm²/s]	Viscosity at 40°C [mm²/s]	Temperature range [°C]	Specifications			
CASSIDA COOLANT 5 NA	47	17	-45 to +120				
Propylene glycol-based fluid specifically designed to provide effective freeze and corrosion protection. Propylene glycol fluids have low acute oral toxicity and are often used in applications where incidental contact							





CASSIDA Greases

Regular Load	
CASSIDA GREASE RLS 000 00 0 1 2	22
Extreme Pressure	
CASSIDA GREASE EPS 00 1 2	22
Heavy Duty	
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CASSIDA GREASE HTS 2	23
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CASSIDA FM GREASE 930-2	
CASSIDA GREASE SGG 000	24
HD GREASE GUN CASSIDA	24

REGULAR LOAD

CASSIDA GREASE RLS 00 | 0 | 1 | 2

Signal Si	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade
CASSIDA GREASE RLS 00	AlCx	100	13	-45 to +100 (upper peak: +120)	00
CASSIDA GREASE RLS 0	AlCx	150	18	-40 to +100 (upper peak: +120)	0
CASSIDA GREASE RLS 1	AlCx	150	18	-40 to +120 (upper peak: +140)	1
CASSIDA GREASE RLS 2	AlCx	150	18	-35 to +120 (upper peak: +140)	2

High-performance, regular-load aluminium complex greases with synthetic base fluid.

Main application: For use on bearings, bushings and linkages on food manufacturing equipment. CASSIDA GREASE RLS 0 and 00 are particulary recommended for centralised lube systems or other similiar systems where an NLGI 2 grease may be difficult to dispense.

EXTREME PRESSURE

CASSIDA GREASE EPS 00 | 1 | 2

©® © <u>EP</u> NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI-Grade
CASSIDA GREASE EPS 00	AlCx	220	25	-45 to +100 (upper peak: +120)	00
CASSIDA GREASE EPS 1	AlCx	220	25	-40 to +120 (upper peak: +140)	1
CASSIDA GREASE EPS 2	AlCx	220	25	-35 to +120 (upper peak: +140)	2

High-performance, extreme-pressure aluminium complex greases with synthetic base fluid.

Main application: For use on bearings, bushings and linkages on food manufacturing equipment, particulary where high pressure and loads, high temperatures and water spray occur. CASSIDA GREASE EPS 00 is especially recommended for centralised lube sytems and enclosed gears.

HEAVY DUTY

CASSIDA GREASE HDS 00 | 2

	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI-Grade
CASSIDA GREASE HDS 00	AICX	800	68	-35 to +120 (upper peak: +120)	00
CASSIDA GREASE HDS 2	AICX	800	68	-35 to +120 (upper peak: +140)	2

High-performance, high-viscosity heavy-duty aluminium complex greases with synthetic base fluid.

Main application: For use on bearings, bushings and linkages on food manufacturing equipment, particulary where slower speeds, high pressure and loads, high temperatures and water spray are present. CASSIDA GREASE HDS 00 is recommended for open gears and centralised lube systems.

SPECIALTIES

CASSIDA GREASE GTM 2

	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade	
CASSIDA GREASE GTM 2	CSX	220	25	-40 to +160	2	
Specialty synthetic extreme-pressure grease for food and beverage processing equipment.	Main application: For use on bearings of electric motors, pumps, conveyors, mixers and robotic applications.					

CASSIDA GREASE GTX 2

	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade	
CASSIDA GREASE GTX 2	CSX	460	44	-35 to +180 (upper peak: +220)	2	
High-performance, extreme-pressure calcium sulphonate complex grease with synthetic base fluid. Excellent extreme pressure, anti- wear and corrosion prevention properties.	Main application: For use on bearings of electric motors, pumps, conveyors, mixers, gear units and bearings. Heavy-loaded and shock-loaded applications with low- to medium-speed bearings operating up to 180°C, such as machines used to process pet food and animal feed.					

CASSIDA GREASE HTS 2

	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade	
CASSIDA GREASE HTS 2	Inorganic	400	40	-30 to +200 (upper peak: +220)	2	
Inorganically thickened grease with synthetic base fluid.	Main application: Suitable for applications on food manufacturing equipment where high temperatures (peak 220°C) may be experienced.					

CASSIDA GREASE MD 2

water, steam and disinfectant solutions.

	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI-Grade	
CASSIDA GREASE MD 2	PTFE	650	250	-40 to +200 (upper peak: +250)	2–3	
High-performance, silicone-based speciality grease specially developed for the lubrication and sealing of taps, valves and fittings with EPDM seals. Suitable for use with other seal materials normally used in food machinery lubrication systems. Good resistance to hot	Main application: Taps, flow meters and fittings used for the handling of water, drinks and beer. Seals on autoclaves and sterilisers. Suitable for continuous operation at temperatures up to 180°C and short-term exposure to temperatures not exceeding 250°C.					

SPECIALTIES

CASSIDA FM GREASE 930-2

SO NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI-Grade		
CASSIDA FM GREASE 930-2	Inorganic	130	2	-20 to +120	2		
High-temperature extreme pressure lubricating grease.	Main application: Designed for a multitude of general plant lubrication requirements including plain or anti friction bearings, slides, cam tracks, lead pins, chucks and bearings.						

CASSIDA GREASE SGG 000

	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI-Grade		
CASSIDA GREASE SGG 000	AICX	460	45	-40 to +149	000		
High-performance, aluminum complex grease with synthetic base fluid.	Main application: For use in gearboxes where fill- for-life lubrication is required. CASSIDA GREASE SGG 000 is also recommended for centralized lube systems that call for fluid grease with a heavy base oil viscosity and maximum performance.						

HD GREASE GUN CASSIDA

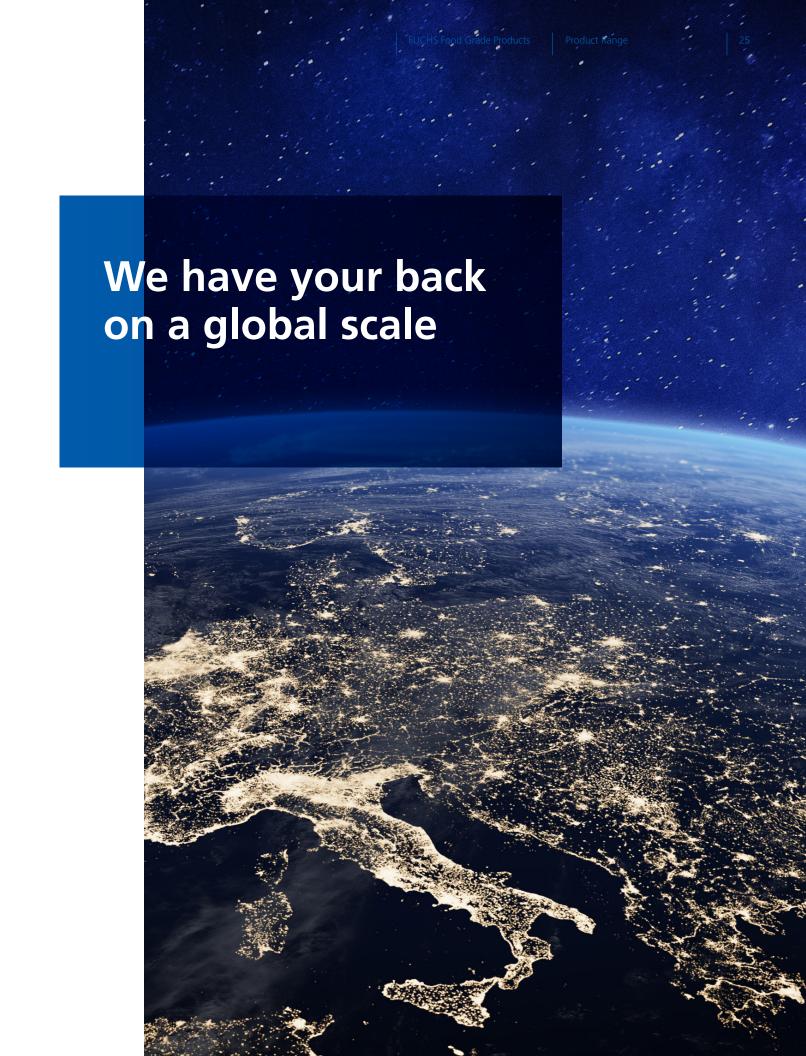
The two-handed gun guarantees clean and safe lubrication of machines in the food industry. It delivers a large volume of lubricant per stroke. Particularly simple handling is achieved with the use of matching cartridges with a screw cap.

The gun is pre-lubricated with food grade grease, which ensures the highest level of food safety.

Operation pressure up to 400 bar / 5,800 psi

- Ergonomic grips for optimum operation
- Twin-lock system protects the piston from wear and avoids grease escaping the piston
- Protecting cap to prevent contamination at hose end
 Flexible armoured hose for optimum accessibility of lubricating points
- Output: 1.5 cm³/stroke
- Available with 500 g SR cartridges
- Complete discharge of the SR cartridge by special piston shape
- Colour coding of cartridges avoids mixing up different lubricants









CASSIDA FM Range (semi-synthetic or white-oil-based)

Hydraulic Oils	
CASSIDA FM HYDRAULIC OIL 32 46 68 100	28
Chain Oils	
CASSIDA FM CHAIN OIL 100	28
Gear Oils	
CASSIDA FM GEAR OIL TLS 150	28
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CASSIDA FM GREASE CLEAR SERIES	31
CASSIDA FM GREASE 2	31
CASSIDA FM GREASE CSC EP SERIES	31

HYDRAULIC OILS

CASSIDA FM HYDRAULIC OIL 32 | 46 | 68 | 100

SE = (NSF)	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications		
CASSIDA FM HYDRAULIC OIL 32	32	5.7	0 to +110 (upper peak: +120)	DIN 51524 HLP		
CASSIDA FM HYDRAULIC OIL 46	46	7	0 to +110 (upper peak: +120)	DIN 51524 HLP		
CASSIDA FM HYDRAULIC OIL 68	68	9	0 to +110 (upper peak: +120)	DIN 51524 HLP		
CASSIDA FM HYDRAULIC OIL 100	100	11.5	0 to +110 (upper peak: +120)	DIN 51524 HLP		
Hydraulic fluids for food and beverage processing equipment.	Main application: Hydraulic systems, hydrostatic gears and control systems, plain and anti-friction bearings on food handling and processing equipment.					

CHAIN OIL

CASSIDA FM CHAIN OIL 100

ASF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range oven [°C]	Specifications		
CASSIDA FM CHAIN OIL 100	100	14	-20 to +120			
White oil, adhesive, anti-wear chain oil. Minimizes fling- off in use and wash-off by both cold and hot water.	Main application: Drive and transport chains in the food industry. Also intended for use in equipment manufacturing and food packaging.					

GEAR OILS

CASSIDA FM GEAR OIL TLS 150

Some Significant states of the	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications	
CASSIDA FM GEAR OIL TLS 150	150	15	0 to +110 (upper peak: +120)	DIN 51517 CLP	
Speciality anti-wear gear lubricant specifically designed for use in the food and beverage canning industry. Provides good lubrication even when operating in locations where it is subject to contamination with water, juice and food. Holds these contaminants in suspension, thus protecting metal surfaces from wear and corrosion. Only to be used for total loss systems.	Main application: Suitable for can seamer gearboxes on food handling and processing equipment. May also be used for general machine lubrication.				

CASSIDA FM SEAMER OIL 150

	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications			
CASSIDA FM SEAMER OIL 150	150	15	0 to +110 (upper peak: +120)	DIN 51517 CLF			
A food-grade lubricant designed for use in seaming equipment where incidental food contact may occur. Only to be used for total loss systems.	Main application: Suitable for can seamer gearboxeson food handling and processing equipment. Can also be used for general machine lubrication.						

GEAR OILS

CASSIDA FM GEAR OIL 150 | 220 | 320 | 460 | 680

(S) (NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications		
CASSIDA FM GEAR OIL 150	150	16	0 to +110 (upper peak: +120)	DIN 51517 CLP		
CASSIDA FM GEAR OIL 220	220	21	0 to +110 (upper peak: +120)	DIN 51517 CLP		
CASSIDA FM GEAR OIL 320	320	28	0 to +110 (upper peak: +120)	DIN 51517 CLP		
CASSIDA FM GEAR OIL 460	460	30	0 to +110 (upper peak: +120)	DIN 51517 CLP		
CASSIDA FM GEAR OIL 680	680	38	0 to +110 (upper peak: +120)	DIN 51517 CLP		
Gear lubricants for food and beverage processing equipment.	Main application: Suitable for gearboxes on food handling and processing equipment. May also be used for general machine lubrication or as a flushing fluid.					

SPECIALTIES

CASSIDA FM HEAT TRANSFER FLUID 32

NSF NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications		
CASSIDA FM HEAT TRANSFER FLUID 32	35	6 0 to + (upper peal		DIN 51522 Q		
High-performance heat transfer fluid. Wide range of application temperatures and has excellent thermal and oxidative stability to minimise cracking and promote long service life.	Main application: For closed-circuit and pressureless heat transfer systems with a bulk oil temperature range of approximately -10°C to max. +325°C where the surface temperature of the heating elements (oil film temperature) should not exceed +340°C.					

CASSIDA FM FLUID RC 150 | 220

(NSF)	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications
CASSIDA FM FLUID RC 150	150	15.5	-10 to +140 (upper peak: +150)	DIN 51517 CLP
CASSIDA FM FLUID RC 220	220	20.4	-10 to +140 (upper peak: +150)	DIN 51517 CLP
Special high-performance fluids specially developed for use in rotary cooking equipment in food and beverage canning plants. Provide good lubrication even when operating in locations where they are subject to contamination with water.			ralized systems of rotary ange valves and other n	

SPECIALTIES

CASSIDA FM KRYSTALL

®→® S NSF	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications		
CASSIDA FM KRYSTALL	4.5	1.6	-20 to +120	-		
Food-grade penetrating and flushing oil with rustinhibiting and lubricating properties.	Main application: Cleans and lubricates conveyor surfaces, processing tables, and packaging machines; flushing agent for bearings, gearboxes, and hydraulic systems; release agent for cutting blades, punches, and dies; protects parts against corrosion.					

*without propellant

CASSIDA FM AIR LUBE AA

(S) (NSF)	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	Specifications		
CASSIDA FM AIR LUBE AA	18	3.8	-20 to +120	-		
Special food-grade oil for air-line lubrication. Formulated with proprietary package of emulsifiers, detergents, and dispersants.	Main application: Rolling element and plain bearings. Heavy-loaded and shock-loaded applications. Joints, linkages, and slides. Lubricates pneumatic actuators and lifters, air motors, and air tools.					

GREASES

CASSIDA FM GREASE HD 2

S TO EP NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade		
CASSIDA FM GREASE HD 2	AlCx mod.	550	38	-10 to +140 (upper peak: +150)	2		
Modified aluminum complex heavy-duty, extreme- pressure grease.	Main application: For use on slow-to-medium-speed plain and rolling element bearings in heavy-loaded and shock-loaded applications. Recommended for use in machinery requiring frequent changes of the grease charge or with a high product consumption rate, such as machines used to process pet food and animal feed.						

CASSIDA FM GREASE AX/EP SERIES

S EP NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI-Grade
CASSIDA FM GREASE AX/EP 0	AlCx	180	20	-15 to +120	0
CASSIDA FM GREASE AX/EP 1	AlCx	180	20	-15 to +120	1
CASSIDA FM GREASE AX/EP 2	AlCx	180	20	15 to +120	2
High-performance, regular-load aluminum complex grease.	Main application: Rolling element and plain bearings. Joints and linkages open to the atmosphere. Automatic, centralized lubrication systems.				

GREASES

CASSIDA FM GREASE CLEAR SERIES

NSF NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade	
CASSIDA FM GREASE CLEAR 1	AlCx mod.	100	11	-9 to +104 (upper peak: +112)	1	
CASSIDA FM GREASE CLEAR 2	AlCx mod.	100	11	-9 to +104 (upper peak: +112)	2	
Modified aluminium complex multipurpose, extreme pressure grease.	Main application: For use on Rolling element and plain bearings; Joints, linkages open to the atmosphere; Automatic, centralized lubrication system; Spreads uniformly to cover metal surface.					

CASSIDA FM GREASE 2

S S IF NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade
CASSIDA FM GREASE 2	AlCx mod.	570	46	-6 to +121 (upper peak: +129)	2
Multinumose heavy duty lubricant for food and beverage	Main application: Rolling element and plain hearings: heavy loaded and				

processing and packaging industry. Aluminum complex thickener, white oils and selected additives for the stringent requirements of food and beverage industry.

Main application: Rolling element and plain bearings; heavy loaded and shock loaded applications; joints, linkages and slides; recommended for a wide range of applications.

CASSIDA FM GREASE CSC EP SERIES

S S EP S S NSF	Thickener	Viscosity at 40°C [mm²/s]	Viscosity at 100°C [mm²/s]	Temperature range [°C]	NLGI- Grade
CASSIDA FM GREASE CSC EP 1	CSx	105	11.7	-20 to +140	1
CASSIDA FM GREASE CSC EP 2	CSx	105	11.7	-20 to +140	2

Calcium sulphonate complex thickener, white oils and select additives chosen for their ability to meet the stringent requirements of food and beverage industry.

Main application: For use on plain and roller bearings. Recommended for a wide range of applications like slides and ways, mechanical linkage, electric motor bearings, pump shaft bearings. High temperatures, steam, and centrifugal action causing throw-off and will work well in many centralized automatic lubrication systems.

SUPERLA® Food Grade

Valuable processing aids for the food industry

Our customers in the food industry have high expectations and they can count on us to deliver:

- Consistently high-grade products of the very purest quality
- Reliable fulfilment of regulatory requirements
- A variety of different packaging sizes
- A fast completely smooth supply chain

And that is exactly what we do! We ensure consistent product quality: The purity of the SUPERLA® products is why they are already widely used by many customers in the food industry. Our goods fulfil and even partially surpass the requirements set out in strict directives. We offer a unique combination of unbeatable service and the best processing aids for the production of food and its packaging, including white oils, petroleum jellies and oils that are approved as food additives.



WHITE OILS

SUPERLA® FOOD GRADE WHITE OILS

	Colour Saybolt	Viscosity at 40°C [mm²/s]	Specifications	
SUPERLA® WHITE OIL 5	+30	7.8	NSF H1, 3H FDA 172.878, FDA 178.3570, FDA 178.3620 (b), FDA 573.680, FDA 178.3740 USP, Kosher	
SUPERLA® WHITE OIL 7	+30	13.3	NSF H1, 3H FDA 172.878, FDA 178.3570, FDA 178.3620 (b), FDA 573.680, FDA 178.3740 USP, Kosher	
SUPERLA® WHITE OIL 9	+30	15.6	NSF H1, 3H FDA 172.878, FDA 178.3570, FDA 178.3620 (b), FDA 573.680, FDA 178.3740 USP, Kosher	
SUPERLA® WHITE OIL 10	+30	19.0	NSF H1, 3H FDA 172.878, FDA 178.3570, FDA 178.3620 (b), FDA 573.680, FDA 178.3740 USP, Kosher	
SUPERLA® WHITE OIL 21	+30	40.5	NSF H1, 3H FDA 172.878, FDA 178.3570, FDA 178.3620 (b), FDA 573.680, FDA 178.3740 USP, Kosher	
SUPERLA® WHITE OIL 35	+30	67.3	NSF H1, 3H FDA 172.878, FDA 178.3570, FDA 178.3620 (b), FDA 573.680, FDA 178.3740 USP, Kosher	
SUPERLA® food grade white oils are colourless, odourless and tasteless oils. The mixtures of saturated paraffinic and naphthenic hydrocarbons span a wide viscosity range. They are clear, bright and free of solids. These chemically nearly inert oils are virtually free of nitrogen, sulphur, oxygen and aromatic compounds.	Main application: Dust-binders in cereals processing, Defoaming agents, Release agents in bakeries, Coatings for sausage casings, Fruit coatings, Plasticisers in plastic packaging materials. They are also ideally suited as processing aids for: Production of - edible oils, - wine corks, - beverage and animal feed cans, - food trays and meat processing.			

PETROLEUM JELLY

PETROLATUM SNOW WHITE

NSF	Colour Lovibond	Viscosity at 100°C [mm²/s]	Cone penetration 1/10mm at 25°C	Specifications	
PETROLATUM SNOW WHITE	0.5	13.5	170	NSF H1, 3H, and Kosher	
Ash free mixture of mineral oils and a special petroleum wax with a smooth grease like texture.	Main application: Salves, suppositories, sun tan products, hair products, other applications where the consistency contributed by petrolatum is requeired.				





CASSIDA Automatic Lubricators

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CASSIDA Automatic lubricators

CASSIDA automatic lubricators are devices that can be programmed to automatically deliver lubricant (food-grade grease or oil). In most cases, the equipment can continue to run while the lubricant is being applied, which reduces downtime.

Automatic lubricators optimize lubricant consumption, resulting in economic and long-term maintenance savings. They also eliminate the costly and sometimes hazardous task of manually applying precise amounts of lubricant to numerous sites on the equipment at regular time intervals while it is running.

Hygienic design guidelines are also improved by using automatic lubricators, as they provide a means of achieving clean lubrication, preventing any leaks and spills that may contaminate production. Automated lubrication provides constant protection against contamination through the lubrication points by preventing the ingress of water, dirt and dust, thereby extending the service life of the equipment.

In short, automatic lubricators simplify equipment lubrication and provide a level of consistency that results in many important benefits, including:

- Reduced maintenance costs
- Increased labour efficiency and labour cost savings
- Increased safety for personnel in maintenance tasks
- Reduced equipment downtime
- Longer equipment service life
- Guaranteed optimum and consistent lubrication
- Increased reliability by eliminating human error in manual lubrication
- Improved hygienic design and food safety by minimising residual lubricant

To achieve all these benefits, FUCHS offers its customers the full range of CASSIDA food-grade lubricants supplied in FLEX automatic lubricators.

CASSIDA Automatic Lubricators



CASSIDA FLEX 125

Description: 125 cm³ automatic lubrication system

Items included: CASSIDA FLEX 125

Sales format: Box of 10 units

CASSIDA FLEX

CASSIDA FLEX is a compact, ready-to-use lubrication system supplied as a complete unit. It can be used in a wide range of applications at temperatures between -20 °C and +60 °C. The discharge time is freely selectable between 1 and 12 months.

The required pressure is produced by means of an electronically controlled chemical reaction. Fresh lubricant is continuously supplied to the lubrication point during the selected discharge time. CASSIDA FLEX is available in 60 cm³ and 125 cm³ sizes.





Technical Information

Operation Electrochemical reaction. Gas production.

Discharge time at +20 °C / Perma multi-purpose grease SF01 1, 2, 3... 12 Months

Lubricant capacity

60 cm³ or 125 cm³

Application temperature

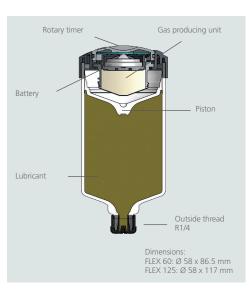
-20 °C to +60 °C

Operating pressure Max. 5 bar

Protection class IP 68

Special and standard lubricants

Grease up to NLGI 2 / oil



Discharge and	e settin	g in mo	nths:		
Guideline value for draining wi back pressure u NLGI 2 lubricar	thout using	n 69	5 6	7	8
Lubricant residible left behind temperatures > +40 °C and discharge time: > 6 months	at	2 / 10	FF		0 11
	1	2	6	9	12
at -20 °C	2	2 5	6	9 13	12
at -20 °C		_		_	
	2	5	10	13	15
at 0°C	2	5 3.8	10 7.2	13	15

Product features and benefits



All-in-one system with rotary timer for adjusting the discharge time:

1, 2, 3... 12 Months

- The system is supplied fully assembled and is ready for immediate use
- Easily set and switched on using the dial
- Discharge time can be set in monthly intervals from 1 to 12



The system operates reliably between -20 °C and +60 °C

- Suitable for use across a wide temperature range
- Can be used outdoors all year round



EX Certified FM Approved P 68

- Safe and constant lubrication in explosion hazard areas
- Can be used in high-humidity or dusty environments
- Increased safety at work

Remote Installation Accessory Kit

Although preference should be given to installing the automatic lubricators directly, it is often necessary to install them at a distance to reduce the lubricant pressure on the lubrication point as much as possible. This is particularly the case at lubrication points subject to high temperatures (> 60 °C), or where the lubrication point is inaccessible or poses a high risk of injury (vibrations, impacts, cutting, etc.).

The following accessories are required to install CASSIDA automatic lubricators at a distance from the lubrication point. To ensure their proper operating pressures, the STAR VARIO system should be installed at no more than 5 m and the FLEX system at no more than 2 m.

OIL LUBRICATOR INSTALLATION KIT

Description: Remote installation accessory

kit for the automatic

oil-filled lubricator (CASSIDA FLEX)

Items included: 8 accessories and

replacement parts

Sales format: Box with accessory kit

Item name	Quantity	Picture
STAR G1/4 mounting bracket (stainless steel)	1 pc	
65 mm beam clamp (stainless steel)	1 pc	t
Straight G1/4" connector for 8 mm OD, 6 mm ID tubing (nickel-plated brass)	2 pcs	-10
8 mm OD tubing for temperatures between -40 °C and +80 °C (PA)	3 m	
G1/4 male x G1/4 female 90° elbow (brass)	1 pc	
Oil retaining valve G1/4 male x G1/4 female up to +60 °C (brass with plastic valve)	2 pcs	
Bracket (stainless steel)	1 pc	
Oil brush Ø20 mm G1/4	1 pc	

GREASE LUBRICATOR INSTALLATION KIT

Description: Remote installation accessory

kit for the automatic

grease-filled lubricator (CASSIDA FLEX)

Items included: 8 accessories and

replacement parts

Sales format: Box with accessory kit

Item name	Quantity	Picture
STAR G1/4 mounting bracket (stainless steel)	1 pc	
65 mm beam clamp (stainless steel)	1 pc	Ĭ.
Straight G1/4" connector for 8 mm OD, 6 mm ID tubing (nickel-plated brass)	2 pcs	-10
8 mm OD tubing for temperatures between -40 °C and +80 °C (PA)	3 m	
G1/4 male x G1/4 female 90° elbow (brass)	1 pc	
G1/8 male x G1/4 female reducer (brass)	1 pc	
M8x1 male x G1/4 female reducer (brass)	1 pc	
M10x1 male x G1/4 female reducer (brass)	1 pc	



Rivolta Cleaners

Soiled machine parts, systems and surfaces are not only visually annoying, they can also bring the entire work process to a halt. Within the food, beverage and pharmaceutical industry special certified cleaners are required to properly clean various materials in a wide variety of circumstances. For these jobs Rivolta provides solvent-based or water-based cleaning agents with NSF registration.



SOLVENT-BASED CLEANERS

Rivolta S.B.C. Spray

NSF	Density at 15°C [g/cm³]	Evaporation Rate	Specifications
Rivolta S.B.C. Spray	0.82	15	NSF A1

Rivolta S.B.C. Spray is a cleaning agent that evaporates quickly and without leaving residues. S.B.C. Spray is based on a combination of highly effective substances, each of which can remove various types of soiling, e.g. grease, oil, adhesive, paint and sealant residues. The evaporation rate and the spray rate of S.B.C. Spray are precisely matched to the required exposure time or product quantity. This means that with S.B.C. Spray an exact dosage and thus an economical mode of operation is possible. S.B.C. Spray is NSF-A1 registered and suitable for cleaning applications in the food, beverage and pharmaceutical industries.

Available in: 500ml spray can (PU 12 pcs.)

WATER-BASED CLEANERS

Rivolta B.F.C. Spray

NSF	Density at 15°C [g/cm³]	pH-Value at 15°C	Specifications
Rivolta B.F.C. Spray	0.98	8.5	NSF A1
Rivolta B.F.C. Spray is a universal active foam for cleaning and degreasing of water-resistant surfaces from slightly oily and greasy contaminations, soot and dust, nicotine, fingerprints and many more. The active foam is odourless and perfectly adhesive. It does not drip or run off and therefore is especially suitable for the use at vertical surfaces that with S.B.C. Spray an exact dosage and thus an economical mode of operation is possible. S.B.C. Spray is NSF-A1 registered and suitable for cleaning applications in the food, beverage and pharmaceutical industries.	Available in: 400	omi spray can (PU 12 բ	ocs.)



At FUCHS, **MOVING YOUR WORLD** means to constantly push forward. To strive for novel solutions that not only keep your machines running today, but unfold the potentials of tomorrow. A goal we achieve with tailored approaches and individually designed concepts that utilise the full range of our extensive FUCHS Smart Services portfolio. Whether it's digital technologies that monitor the condition of machines or on-site teams that lighten your workload – together, we never stop pushing forward together.



Assess and Analyze



Develop
Plan and

Plan and Set-Up



Manage

Implement and Operate



Optimize

Finetune and Reuse

Our goal: Perfect, sustainable lubrication at all times. Everything starts with the selection of the right lubricant for the specific application and continues with keeping it and the production equipment in perfect condition. Both aspects lead to a significant reduction of your total cost of ownership.

LCCP Survey

Lubrication Critical Control Point (LCCP) is a tool for the evaluation of lubrication hazards and improvements that can have an impact on safety processes, machine/process performance and savings in maintenance and energy costs. This approach is based on the Hazard Analysis and Critical Control Points (HAC-CP), a systematic preventive process to ensure food safety in a logical and objective way, in this case with a focus on lubrication points and their respective cleaning/degreasing. Costly product recalls, brand damage for the product manufacturer and even legal action by the end user can result from using the wrong lubricants. It can also be the cause of maintenance and energy overruns.

FUCHS, as your lubrication supplier, will send experts to your site to conduct an LCCP survey and help you prepare your lubrication program to develop and meet the lubrication portion of a safety plan.



Right & Safe products

Proper use of lubricants, degreasers, and cleaners, e.g. NSF listed, ISO 21469 certified manufacturing plants, etc.



Optimized methods

Review current lubrication methods/ practices and suggest ways to improve, e.g., automatic lubrication, colour codes, QRcodes, etc.



Savings

Reduce references and consumption by switching to less expensive products. Assistance with lubricant optimisation and/or consolidation. Improvement of the energy savings.



Handling guidance

Guidance on storage, use and disposal of lubricants.



Longer lifetime

Protect and extend the life of the machinery and equipment in which they are used by updating and selecting products with superior mechanical performance.



Customized training

Tailor-made courses for maintenance personnel to establish criteria for the correct selection of lubricants, food safety and reducing the cost of lubrication.

FUCHS Lubricants

Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced FUCHS employees will be glad to advise on products for the application in question and also on our full range of lubricants.

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