



Special lubricants for the food processing
and pharmaceutical industry



Special lubricants

Food processing and pharmaceutical industry

BECHEM – Lubrication solutions for industry

As the oldest German manufacturer of industrial lubricants, BECHEM is one of the leading producers of high-quality special lubricants and metalworking fluids today.

BECHEM products stand out through innovative formulations in the most diverse industrial applications – in machining and forming for metalworking processes, in coating technology and as for-life lubricants in various technical components.

A strong network of distributors and several national and international production sites ensure that BECHEM products are readily available worldwide.

Tomorrow's technologies. Today.

H1: Identification of food grade lubricants, i.e. lubricants which can be applied where incidental food contact cannot be excluded.

H2: Identification of lubricants for the general use in the food processing industry, provided food contact is excluded.












3H: Identification of release agents which are used in food production to prevent adhesion of food stuffs (direct food contact is allowed).

Halal: Identification of products which are classified as "halal" (legal) according to the Islamic dietary regulations.






Kosher: Identification of products which are classified as "kosher" (suitable, clean) according to the Jewish dietary laws.

ISO 21469: International standard which specifies the hygiene requirements for the formulation, manufacture and use of lubricants where incidental food contact cannot be excluded.

APPLICATIONS

- Roller bearings 
- Plain bearings 
- Closed gears 
- Hydraulic 
- Chains 
- Thread lubrication 
- Sanitary fittings 
- Industrial fittings 
- Deep drawing 
- Punching 
- Bending 

PROPERTIES

- High temperatures 
- Low temperatures 
- High loads 
- Good pumpability 
- Resistant to water 
- Noise damping 
- Compatible with plastics 
- Corrosion protection 
- Cleaning agent 
- UV tracer 
- Minimum quantity lubrication 
- Low residue level 
- Chlorine free 
- Available in aerosols 

All indications and values correspond to latest knowledge and do not represent any product specification

Multifarious applications require special products



Food grade lubricants are used for lubrication, power transmission and corrosion protection of machines to produce and process food, food related commodities, cosmetics, pharmaceutical products, tobacco products and animal feed.

With the rising quality requirements in the food processing industry the expectations of lubricants for this market segment are increasing as well.

Food grade lubricants are subject to strict regulations, have to be physiologically harmless and must offer special features under different operating conditions, such as

- Excellent lubrication performance
- High water resistance
- Oxidation stability
- Low wear rates
- Compatibility with construction materials
- Good adsorption and adhesion on metal and plastics
- Steam resistance (when filling wine, beer or soft drinks)

BECHEM food grade lubricants meet the standards and requirements of modern lubricants applied in the food processing industry. They comply with the strict regulations of the international organisations for product testing and certification.

For extreme loads

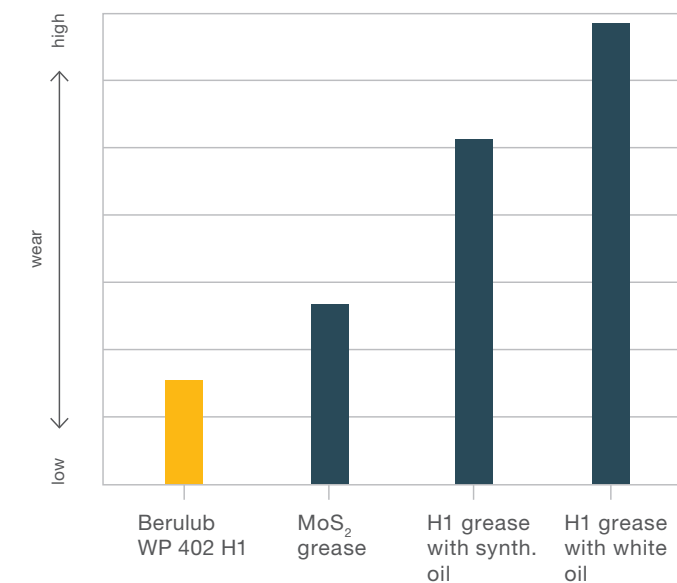
BECHEM food grade lubricants cover a wide range of applications. Even for most demanding requirements e. g. with the regard to load carrying capacity BECHEM offers high-performance products such as **Berulub WP 402 H1** (compare chart).

Based on their special hybrid technology these products exceed even conventional MoS₂ and graphite greases concerning the wear properties.

In view of their well balanced ingredients the BECHEM food grade lubricants fulfil the following criteria:

- The ingredients comply with the requirements of the Food and Drug Administration (FDA) and are verified by internationally accepted certification organisations
- They are neutral in smell and taste
- They are free from animal ingredients
- According to FDA, the products (H1, 3H) can be used during food production
- They resist the seasonal, chemical, thermal and mechanical loads of the operating conditions to be expected

Wear properties



Lubricating greases for the food processing and pharmaceutical industry




PRODUCT	TECHNICAL DATA						APPLICATIONS																Description	
	Base oil/thickener	NLGI-grade	Kinematic viscosity (mm ² /s) at 40 °C ¹ 100 °C	Service temperature range [°C] ¹	Certificate Compliance	Solid lubricants	Roller bearings	Plain bearings, hinges	Slideway	Slide rails	Roller	Cam disk	Gear rack	Threaded spindle	Pneumatics	Central lubrication	Gaskets	Gland nut	Fittings	Small gears	Elastomers, plastics	Screw connections		Plug-in connectors
Berulub 932 Antiseize Paste 	Medical white oil/Gel	1*	70 9	-40 +1400	H1 Halal Kosher	•													•			•	•	Universal screw paste, prevents cold welding and fretting corrosion, metal free, light coloured solid lubricants, resistant to water and various acids and lyes
Berulub FA 37 	White oil/Aluminum complex soap	2	67 9	-20 +120	H1 Halal Kosher	-	•	•							•									For the lubrication of roller, plain bearings and sanitary fittings, resistant to hot and cold water, transparent
Berulub FA 46 	White oil/Aluminum complex soap	2	67 9	-20 +120	H1 Halal Kosher	•	•	•	•	•					•				•					See Berulub FA 37 , contains solid lubricants, increased load carrying capacity, colour white
Berulub WP 402 H1 	White oil/Special aluminum complex soap	1-2	400 30	-20 +150	H1 Halal Kosher	-	•	•	•	•	•	•	•	•	•									Long-life lubricating grease, excellent water resistance, very good consistency-temperature behaviour, high corrosion protection, EP-properties, for pellet presses (wood and feeding stuff industry), certified according to ISO 21469
Berulub MW 2 X 3H 	Special calcium soap	1-2	70 90	-20 +120	3H Halal Kosher	-	•	•	•						•						•			Multifunctional release agent and lubricant for direct contact with food, neutral in smell and taste, resistant to oxidation and ageing, good EP-properties, 3H-registered
Berulub FB 34 	PAO/Aluminum complex soap	1	400 40	-40 +160	H1 Halal Kosher	•	•	•	•	•	•	•	•	•	•				•	•				Synthetic universal lubricant, resistant to hot water, suitable for central lubrication systems, certified according to ISO 21469, also available in NLGI class 2 and 00 (Berulub FB 34-2 and Berulub FB 34-00)
Berulub FG-H 2 EP 	PAO/Special calcium complex soap	1-2	150 18,5	-40 +160	H1 Halal Kosher	-	•	•	•	•	•	•	•	•	•				•					Universal lubricant, good protection against corrosion and wear, resistant to ageing, water, disinfectants and cleaners, certified according to ISO 21469
Berulub FG-H 2 SL 	PAO/Special calcium complex soap	2	50 8	-45 +160	H1 Halal Kosher	-	•	•	•	•	•	•	•	•	•				•	•				Universal high-performance lubricant, good adhesion and sealing properties, largely resistant to water, disinfectants and cleaners, certified according to ISO 21469
Berulub FH 28 KN 	PAO/Polyurea	1-2	400 40	-30 +180 +200	H2 Halal Kosher	-	•	•	•	•	•	•	•	•	•				•					For the lubrication of roller and plain bearings to reduce friction and wear even at high temperatures and loads
Berulub OX 100 EP 	PFPE/inorganic pigment	2*	90 11	-30 +200	H1 Halal Kosher	-		•											•		•	•	•	Lubricant for oxygen fittings and other parts in oxygen production plants, for oxygen pressures up to 140 bar at a service temperature of +60 °C, e.g. in the aerospace industry, BAM inspected
Berutemp 500 G 2 	PFPE/Gel	2	510 45	-35 +260	H1 Halal Kosher	-	•	•	•	•	•	•	•	•	•				•		•			High-temperature and long-life lubricant for ejector pins/slides (plastic industry) and plain bearings, compatible with plastics and elastomers, UV tracer, certified according to ISO 21469
Berutemp 500 T 2 	PFPE/PTFE	1-2	510 45	-20 +260	H1 Halal Kosher	•	•	•	•	•	•	•	•	•	•				•					High-temperature lubricant, high wear and corrosion protection, resistant to acids, leaches, disinfectants, compatible with plastics, certified according to ISO 21469
Berutemp 500 XT 2 	PFPE/PTFE	2	510 45	-20 +260	H1 Halal Kosher	•	•	•	•	•	•	•	•	•	•				•					Synthetic high-temperature and long-term lubricating grease, high thermal and chemical resistance, compatible with plastics and elastomers, reduces friction and wear, high corrosion protection, odourless, noise dampening

¹Value indicates unworked penetration ^{**}Halal and kosher certificates refer only to the lubricant ¹Value in gray indicates a possible short-term maximum temperature




» More performance, more security. «



Lubricating greases for the food processing and pharmaceutical industry

PRODUCT	TECHNICAL DATA						APPLICATIONS															
	Base oil/thickener	NLGI-grade	Kinematic viscosity (mm ² /s) at 40 °C / 100 °C	Service temperature range [°C]	Certificate compliance	Solid lubricants	Roller bearings	Plain bearings, hinges	Slideway	Slide rails	Roller	Cam disk	Gear rack	Threaded spindle	Pneumatics	Central lubrication	Gaskets	Gland nut	Fittings	Small gears	Elastomers, plastics	Description
Berulub FB 35-0 	Synthetic oil combination/aluminum complex soap	0	180 20	-40 +160	H1 Halal Kosher	•	•								•					•		Semi-fluid grease to lubricate closed gears, suitable for all permitted semi-fluid grease sliding speeds, creamcoloured, also available in NLGI class 2 (Berulub FB 35-2)
Berulub Sihaf 2 	Silicone oil/PTFE	3	3.100 1.200	-40 +160	H1 Halal Kosher	•	•							•		•	•	•			•	Special lubricant for lifetime lubrication, especially for plastics and elastomers, compatible with froth, contains PTFE, certified according to ISO 21469, also available in NLGI class 1 (Berulub Sihaf 1)
Berulub PV DAB 10 	Paraffinic hydro-carbons	-	- 7,5	-20 +45	H1 Halal Kosher	-		•	•												•	Medically pure according to the valid Pharmacopoea Europaea and United States Pharmacopoeia, colourless, transparent, absolutely neutral in smell, certified according to ISO 21469

Forming fluids for metal packaging production

PRODUCT	TECHNICAL DATA				APPLICATIONS					Description
	Base oil	Kinematic viscosity (mm ² /s) at 20 °C / 40 °C	Flashpoint [°C]	Certificate compliance	Stretching	Punching	Forming	Aluminum and non-ferrous metal alloys	Steel alloys and tinplate	
Berulub STO 110 	Ester	- 46	≥ 300	H1 Halal Kosher	•	•	•	•	•	Mineraloil-free, high performance fluid for simple to demanding punching and forming applications, easy to clean by solvent or alkaline aqueous cleaners
Berulub VSM 9 	Low aromatic isoalkanes	1,8 -	≥ 65	H1 Halal Kosher		•	•	•	•	Completely volatilizing, almost odourless fluid for simple to medium-duty punching and forming processes, biodegradable according to OECD 301 F
Berulub VSM 101 	Low aromatic isoalkanes	2,2 -	≥ 62	H1		•	•	•	•	Volatilizing, almost odourless fluid for simple to demanding punching and forming processes



» An optimal lubricating grease allows efficient production processes. «

Lubricating oils for the food processing and pharmaceutical industry

The lubricant series Berusynth H1 offers various advantages and has delivered optimal performance in food grade applications and tests:

- Viscosity grades meet with the requirements of the machine manufacturers as well as with the DIN and ISO standards
- Product is free from ester
- Number of products is reduced to a minimum thanks to multifunctional properties
- Neutral towards conventional seals and paints
- Miscible and compatible with remaining quantities of conventional, mineral-oil based lubricants
- Berusynth H1 oils offer extremely long service life

TECHNICAL DATA

APPLICATIONS

PRODUCT	Base oil	Kinematic viscosity (mm ² /s) at 40 °C / 100 °C	Viscosity index	Service temperature range [°C]	Pourpoint [°C]	Flashpoint [°C]	Certificate Compliance	Type	APPLICATIONS														Description	
									Circulating lubrication	Hydraulics	Planetary gear	Spur gear	Shall-wheel and bevel gear	Transport and drive chains	Central lubrication	Pneumatic service unit	Vacuum pumps	Screw compressors	Reciprocating compressor					
Berusynth 15 H1 	PAO	15 3,8	124	-50 100	-65	≥ 170	H1 Halal Kosher	HLP HC	•	•					•		•							<p>Berusynth H1 oils are food grade high-performance oils which are neutral in smell and taste and which are used for most demanding lubrication processes. The products excel in their extremely long service life, can be mixed with each other and are compatible with remaining quantities of conventional, mineral-oil based lubricants. The special formulation guarantees high wear protection, high load carrying capacity and efficient protection against corrosion.</p> <ul style="list-style-type: none"> • Neutral in smell and taste • Neutral towards seals and paints • High wear protection • High load carrying capacity • Efficient corrosion protection • Resistant to ageing • Certified according to ISO 21469 <p>Oil fillings and lubrication of production, transfer, filling and packing machines, such as</p> <ul style="list-style-type: none"> • Hydraulics • Gears • Circular lubrication • Air blowers • Air compressors • Pneumatic maintenance units • Transport and transmission chains • Central lubrication etc.
Berusynth 32 H1 	PAO	32 6	140	-40 120	-65	≥ 220	H1 Halal Kosher	HLP HC, CLP HC, VDL HC	•	•					•		•							
Berusynth 46 H1 	PAO	46 7,9	140	-40 120	-60	≥ 240	H1 Halal Kosher	HLP HC, HVLP HC, CLP HC, VDL HC	•	•					•		•	•	•					
Berusynth 68 H1 	PAO	68 11	145	-40 120	-55	≥ 240	H1 Halal Kosher	HLP HC, HVLP HC, CLP HC, VDL HC	•	•	•				•		•	•	•					
Berusynth 100 H1 	PAO	100 14,5	145	-35 120	-50	≥ 250	H1 Halal Kosher	HLP HC, CLP HC, VDL HC	•	•	•				•	•		•		•				
Berusynth 150 H1 	PAO	150 19	145	-35 120	-50	≥ 250	H1 Halal Kosher	HLP HC, CLP HC, VDL HC	•	•	•				•	•		•						
Berusynth 220 H1 	PAO	220 26	150	-35 120	-50	≥ 250	H1 Halal Kosher	CLP HC	•		•	•	•	•	•	•								
Berusynth 320 H1 	PAO	320 38	150	-20 140	-45	≥ 250	H1 Halal Kosher	CLP HC	•		•	•	•	•	•	•								
Berusynth 460 H1 	PAO	460 44	150	-20 140	-40	≥ 255	H1 Halal Kosher	CLP HC	•					•	•									
Berusynth 680 H1 	PAO	680 59	155	-20 140	-35	≥ 260	H1 Halal Kosher	CLP HC	•					•	•									
Berusynth 1000 H1 	PAO	1.000 82	165	-20 140	-35	≥ 260	H1 Halal Kosher	CLP HC	•					•										
Berusynth PG 150 H1 	Polyglycol	150 30	225	-30 140	-40	≥ 200	H1 Halal Kosher	CLP PG	•		•	•	•	•										<p>The Berusynth PG-series is not miscible with the Berusynth H1-series.</p>
Berusynth PG 220 H1 	Polyglycol	220 39	220	-30 140	-36	≥ 200	H1 Halal Kosher	CLP PG	•		•	•	•	•										
Berusynth PG 460 H1 	Polyglycol	460 72	230	-30 140	-36	≥ 200	H1 Halal Kosher	CLP PG	•		•	•	•	•										
Berusynth PG 680 H1 	Polyglycol	680 110	260	-30 140	-36	≥ 200	H1 Halal Kosher	CLP PG	•		•	•	•	•										

Berusynth 100 H1 / Berusynth 1000 H1:

**Halal and kosher certificates refer only to the lubricant

Lubricating oils for the food processing and pharmaceutical industry

TECHNICAL DATA

APPLICATIONS

PRODUCT	TECHNICAL DATA						APPLICATIONS						Description
	Base oil	Kinematic viscosity [mm ² /s] at 40 °C/100 c	Service temperature range [°C]	Pourpoint [°C]	Flashpoint [°C]	Certificate Compliance	Transport- and drive chains	Dough divider	Plastics and elastomers	Flat and mesh belt lubrication	Cleaner		
BECHEM Plantfluid 	Native	42 9,3	0 180	-12	≥ 320	H1, 3H Halal Kosher	•			•		High-temperature lubricant for continuous ovens, transparent, reliable protection against corrosion, eliminates squeaking noises, prevents stiffening of conveyor belts, certified according to ISO 21469	
BECHEM Fluid W 68-3H 	Medical white oil	70 9,2	-10 120	-9	≥ 220	H1, H3 3H, Halal Kosher	•	•				Release and lubricating agent for direct food contact, neutral in smell and taste, good corrosion protection, free from animal, genetically modified ingredients and nut oils	
Berulub WO 	Medical white oil	17 -	-10 120	-9	≥ 160	H1 Halal Kosher		•				Medical white oil, neutral in smell and taste, water repellent, protection against corrosion, resin and acid free, medically compatible, eliminates squeaking noises, removes dirt, high creeping capacity, to lubricate the guidebars of dough dividers	
Berulub Fluid W+B 	Medical white oil	70 8,5	-10 120	-6	≥ 225	H1 Halal Kosher	•					Multifunctional oil, neutral in smell and taste, water repellent, corrosion protection, removes dirt and rust, resin and acid free, medically pure according to the valid Pharmacopoea Europaea and United States Pharmacopoeia, ideal for chains in flour-dust surroundings	
Beruil SM 350 	Silicone oil	270 110	0 150	-47	≥ 300	H1 Halal Kosher	•		•			Silicone oil, physiologically harmless, wide service temperature range, excellent plastics and elastomer compatibility, good wetting behaviour, good thermal and oxidation stability	
Berulub CB 180 H1 	Ester	180 23	-40 220	-45	≥ 240	H1 Halal Kosher	•					High-temperature chain oil, wide service temperature range, very good wetting and penetration properties, resistant to hot and cold water, good corrosion protection, no critical formation of residues, certified according to ISO 21469	
Berulub CB 280 H1 	Ester	280 26	-30 230	-36	≥ 250	H1 Halal Kosher	•					High-temperature chain oil, wide service temperature range, very good wetting and penetration properties, resistant to hot and cold water, good corrosion protection, no critical formation of residues, certified according to ISO 21469	
Berulub CC 5 H1 	PAO	5 -	-60 120	-75	≥ 160	H1 Halal Kosher	•					Synthetic low-temperature chain oil for efficient and high-performance lubrication, excellent wear protection, very good penetration properties, high load carrying capacity, good corrosion protection, high wash-out resistance, no critical formation of residues	
Berulub CG 370 H1 	Polyglycol	370* 58*	-25 180	-	≥ 200*	H1 Halal Kosher	•					Synthetic high-temperature chain oil, at +200 °C as fluid lubricant, at higher temperatures the synthetic carrier fluid evaporates without leaving any residues, the remaining dry lubricating film guarantees reliable lubrication at temperatures up to +650 °C	
BECHEM Fluid SD 	-	-	5 75	-	-	H1 Halal Kosher					•	Special lubricant and solvent to solvate and dissolve sugar crusts and caramel, for the lubrication of machine parts which are exposed to sugar, sugar dusts and liquids with sugar content, eliminates formation of crusts, neutral in taste and smell, good creeping properties	
Beruclean ECO 	-	-	-	150	≥ 65	H1 Halal Kosher					•	Universal cold cleaning agent, removes oil and grease contaminations as well as waxes, resins, bitumen, tar and oil carbon, as well as paints and colours which have not yet hardened	
Beruclean H1 	-	-	-	-	-	H1 Halal Kosher					•	Fat solvent and brake cleaner, evaporates without leaving any residues, removes all types of oil and grease contaminations as well as not yet hardened coatings and paints	

*Value of the base oil **Halal and kosher certificates refer only to the lubricant

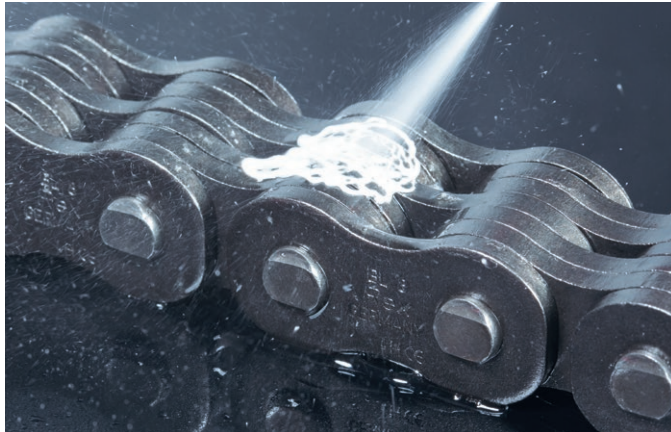
Cleaner

» BECHEM products meet the standards and requirements of food-grade lubricants. «



Sprays for the food processing and pharmaceutical industry

For easy handling, BECHEM offers a range of lubricants, grease and rust solvents in aerosol cans.



TECHNICAL DATA

APPLICATIONS

PRODUCT	TECHNICAL DATA							APPLICATIONS							Description
	Product group	Base oil	Thickener	Kinematic viscosity [mm ² /s] at 40°C	Viscosity index	Service temperature range [°C]	Certificate Compliance	General oil Lubricating point	Ball and roller bearings	Transport- and drive chains	Rust dissolver	Plastics and elastomers	Cleaner		
BECHEM Fluid W 68-3H Spray 	Release agent	Medical white oil	-	68	110	-10 +120	3H Halal Kosher	•		•				Neutral in smell and taste, water repellent, excellent penetration properties, protects treated machine parts against corrosion, resin and acid free, medical white oil, certified according to ISO 21469	
Beruclean H1 Spray 	Cleaner	-	-	-	-	-	H1 Halal Kosher					•		Fat solvent and brake cleaner, evaporates without leaving any residues, removes all types of oil and grease contaminations as well as not yet hardened coatings and paints, certified according to ISO 21469	
Berulub FG-H 2 EP Spray 	Lubricating grease	PAO	Special calcium complex soap	150	-	-40 +160	H1 Halal Kosher	•	•					High-performance lubricant, very wide service temperature range, high load carrying capacity as well as good corrosion protection, multifunctional use, reduces the number of products used in maintenance, good adhesion and sealing effect, largely resistant to hot and cold water, certified according to ISO 21469	
Berulub GD 50 H1 Spray 	Multi-functional oil	-	-	-	-	-	H1 Halal Kosher	•			•			Multifunctional rust solvent with additional lubricating and anti-corrosion properties, excellent creeping properties, removes rust and strong contaminations even at points difficult to access, certified according to ISO 21469	
Berulub W+B Spray 	Multi-functional oil	Medical white oil	-	70	110	-10 +120	H1 Halal Kosher	•		•	•			Neutral in smell and taste, water repellent, excellent creeping properties, protects machine elements against corrosion, removes dirt and rust, ideal for chains in flour-dust surroundings, resin and acid free, medically compatible, certified according to ISO 21469	
Berusil P 140 Spray 	Release agent	Silicone oil	-	260	440	-40 +150	H1 Halal Kosher	•		•		•		High-performance antiseize, assembly and maintenance product for various materials, especially for non-ferrous metals, plastics and elastomers, certified according to ISO 21469	
Berusynth 1000 H1 Spray 	Chain oil	PAO	-	1.000	165	-30 +200	H1 Halal Kosher	•		•				Fully synthetic adhesive high-performance chain oil spray, forms a transparent and well adhesive lubricating film with EP properties on the friction point, excellent protection against wear and corrosion, certified according to ISO 21469	
Berusynth H1 Spray 	Multi-functional oil	PAO	-	100	140	-50 +200	H1 Halal Kosher	•		•				High-performance adhesive chain oil spray, forms a transparent lubricating film, good adhesive properties, high load carrying capacity, solvent free, certified according to ISO 21469	
Berusynth CB 180 H1 Spray 	Chain oil	Ester	-	180	150	-40 +230	H1 Halal Kosher	•		•				Synthetic high-temperature chain oil, optimised for the use in baking and drying ovens, very good penetration capability, excellent wear and corrosion protection, hot and cold water resistant, wide service temperature range, certified according to ISO 21469	

Food industry

Lubricants for
safe production



Information on the compliance with regulations and religious dietary rules to be taken from our sales documentation

LUBRICATION SOLUTIONS FOR INDUSTRY

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