



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 today is one of the leading producers of high-quality special lubricants and metal working fluids.

BECHEM products convince by innovative formulations in the most diverse of industrial applications – in machining and forming metal working 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 

### ATTRIBUTES

- High temperatures 
- Low temperatures 
- High loads 
- Good pumpability 
- Resistant to water 
- Noise damping 
- Compatible with plastics 
- Corrosion protection 
- Cleaning agent 
- UV tracer 
- Available in aerosols 
- Product 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

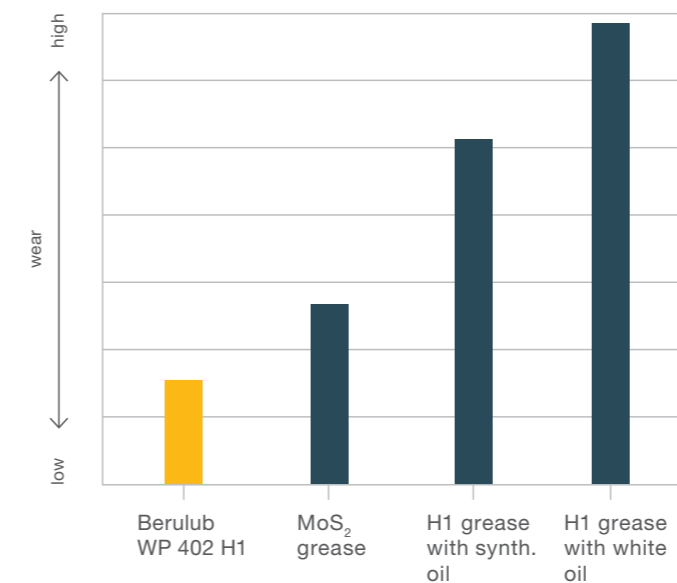
BECHEM food grade lubricants cover a wide range of applications. Even for most demanding requirements e. g. with the regard to load carrying capacity BECHEM offers high-performance products such as Berulub WP 402 H1 (compare chart).

Based on their special hybrid technology these products exceed even conventional MoS<sub>2</sub> 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																		
	Base oil/thickener	NLGI-grade	Base oil viscosity (mm <sup>2</sup> /s) at 40 °C / 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	Properties	
<b>Beruglide L</b> 	PFPE/PTFE	1-2*	160 16	-40 +190	H1 Halal Kosher	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Good noise damping properties, excellent compatibility with plastics and elastomer materials, resistant to oxidation/aggressive media, contains PTFE, certified according to ISO 21469
<b>Berulub 932 Antiseize Paste</b> 	Medical white oil/Gel	1*	70 9	-40 +1400	H1	•													•		•	•		Universal screw paste, prevents cold welding and fretting corrosion, metal free, light coloured solid lubricants, resistant to water and various acids and lyes	
<b>Berulub FA 37</b> 	White oil/Aluminium complex soap	2	67 9	-20 +120	H1	-	•	•							•										For the lubrication of roller, plain bearings and sanitary fittings, resistant to hot and cold water, transparent
<b>Berulub FA 46</b> 	White oil/Aluminium complex soap	2	67 9	-20 +120	H1	•	•	•	•	•					•				•						See <b>Berulub FA 37</b> , contains solid lubricants, increased load carrying capacity, colour white
<b>Berulub FB 34</b> 	PAO/Aluminium complex soap	1	400 40	-40 +160	H1	•	•	•	•	•	•	•	•	•	•				•						Synthetic universal lubricant, resistant to hot water, suitable for central lubrication systems, certified according to ISO 21469
<b>Berulub FB 34-00</b> 	PAO/Aluminium complex soap	00	400 40	-40 +160	H1	•	•								•				•						Semi-fluid grease to lubricate closed gears, suitable for all permitted semi-fluid grease sliding speeds, creamcoloured, certified according to ISO 21469
<b>Berulub FB 35-0</b> 	PAO/Aluminium complex soap	0	180 20	-40 +160	H1 Halal	•	•								•				•						Semi-fluid grease to lubricate closed gears, suitable for all permitted semi-fluid grease sliding speeds, creamcoloured
<b>Berulub FG-H 2 EP</b> 	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
<b>Berulub FG-H 2 SL</b> 	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
<b>Berulub FK 164-2</b> 	PFPE/PTFE	2	150 45	-60 +250	H1 Halal Kosher	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	For plastic and polymer materials, excellent resistance to oxidation/aggressive media, good noise damping properties, contains PTFE, certified according to ISO 21469
<b>Berulub OX 100 EP</b> 	PFPE/inorganic pigment	2*	90 11	-30 +200	H1 Halal			•											•	•	•	•	•		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

\*Value indicates unworked penetration \*\*Halal and kosher certificates refer only to the lubricant

» More performance, more security. «



# Lubricating greases for the food processing and pharmaceutical industry

PRODUCT	TECHNICAL DATA						APPLICATIONS														Properties		
	Base oil/thickener	NLGI-grade	Base oil viscosity (mm <sup>2</sup> /s) at 40 °C / 100 °C	Service temperature range (°C) <sup>1)</sup>	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	
<b>Berulub PV DAB 10</b> 	Paraffinic hydrocarbons	-	- 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
<b>Berulub Sihaf 1</b> 	Silicone oil/PTFE	1	3.100 1.200	-40 +160	H1 Halal Kosher	•		•						•		•	•	•			•	Special lubricant for lifetime lubrication, especially for plastics and elastomers, contains PTFE, certified according to ISO 21469	
<b>Berulub Sihaf 2</b> 	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	
<b>Berulub WP 402 H1</b> 	White oil/ Special aluminium complex soap	1-2	400 30	-20 +150	H1	-	•	•	•	•	•	•	•		•							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	
<b>Berusil FO 63</b> 	Silicone oil/ Gel	1-2*	3.500 1.500	-50 +180	H1 Halal	•		•						•		•	•	•			•	Silicone lubricant for lifetime lubrication, especially for plastics and elastomers, resistant to hot and cold water, excellent high and low temperature resistance, noise damping, neutral in smell, prevents stick-slip, contains light solid lubricants	
<b>Berutemp 500 G 2</b> 	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	
<b>Berutemp 500 T 2</b> 	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	
<b>Berutox VPT 54-1</b> 	PFPE/ PTFE	1	210 20	-30 +230	H1 Halal Kosher	•	•	•	•	•	•	•	•		•	•	•	•			•	Reduction of friction and wear at high temperatures, suitable for all sliding speeds permitted for grease lubrication, certified according to ISO 21469	
<b>Berutox VPT 54-2</b> 	PFPE/ PTFE	2	210 20	-30 +230	H1 Halal Kosher	•	•	•	•	•	•	•	•		•	•	•	•			•	See <b>Berutox VPT 54-1</b> , higher consistency, certified according to ISO 21469	
<b>Berulub Longlife LF</b> 	Mineral oil/ Lithium soap	2	100 9	-30 +120	H2	•	•	•	•	•	•	•	•								•	Universal lubricant for all points of grease lubrication, good resistance to hot water, steam and high temperatures	
<b>Berutemp 490 RS</b> 	Mineral oil/ Polyurea	1-2	490 32	-20 +180	H2	-	•	•	•	•		•	•		•							Long-term lubricating grease with excellent consistency/temperature properties and EP-properties, high corrosion protection, e. g. for pellet presses in the wood processing industry	
<b>Berutox FH 28 KN</b> 	PAO/ Polyurea	1-2	400 40	-30 +180 +200	H2	-	•	•	•	•	•	•		•	•						•	For the lubrication of roller and plain bearings to reduce friction and wear even at high temperatures and loads	

<sup>\*)</sup>Value indicates unworked penetration <sup>1)</sup>Value in grey indicates a possible short-term maximum temperature



» An optimal lubricating grease allows efficient production processes. «

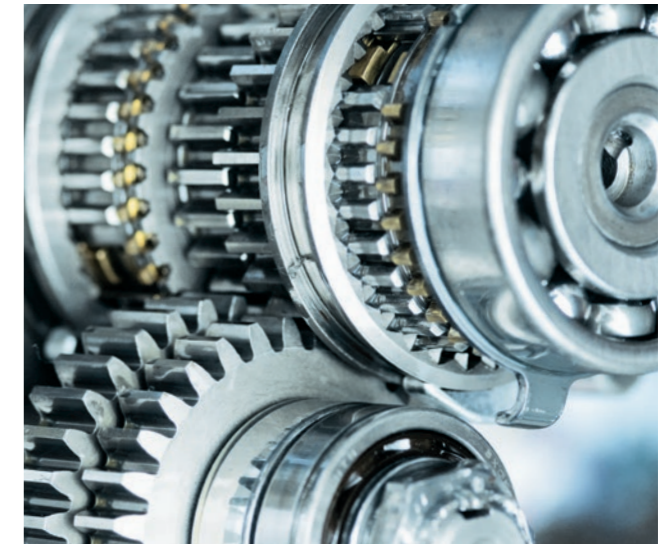
# Lubricating oils for the food processing and pharmaceutical industry

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

- Number of products is reduced to a minimum thanks to multifunctional properties
- Product is free from mineral oil
- Neutral towards conventional seals and paints
- Miscible and compatible with remaining quantities of conventional, mineral-oil based lubricants

- The individual viscosity grades are miscible with each other
- Product is free from ester
- Berusynth H1 oils offer extremely long service life



## TECHNICAL DATA

## APPLICATIONS

PRODUCT	Base oil	Base oil viscosity (mm <sup>2</sup> /s) at 40 °C / 100 °C		Pourpoint [°C]	Flashpoint [°C]	Certificate Compliance	Type	APPLICATIONS													Properties					
		40 °C	100 °C					Circulating lubrication	Hydraulics	Planetary gear	Spur gear	Small-wheel and bevel gear	Transport- and drive chains	Central lubrication	Pneumatic service unit	Vacuum pumps	Screw compressors	Reciprocating compressor								
<b>Berusynth 15 H1</b> Polyalphaolefines (PAO)	PAO	15	3,8	125	-65	≥ 170	H1 Halal Kosher	HLP HC	•	•					•										<p><b>Berusynth H1 oils</b> 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"> <li>• Neutral in smell and taste</li> <li>• Neutral towards seals and paints</li> <li>• High wear protection</li> <li>• High load carrying capacity</li> <li>• Efficient corrosion protection</li> <li>• Resistant to ageing</li> <li>• Certified according to ISO 21469</li> </ul> <p>Oil fillings and lubrication of production, transfer, filling and packing machines, such as</p> <ul style="list-style-type: none"> <li>• Hydraulics</li> <li>• Gears</li> <li>• Circular lubrication</li> <li>• Air blowers</li> <li>• Air compressors</li> <li>• Pneumatic maintenance units</li> <li>• Transport and transmission chains</li> <li>• Central lubrication etc.</li> </ul>	
<b>Berusynth 32 H1</b>	PAO	32	6	140	-65	≥ 220	H1 Halal Kosher	HLP HC, CLP HC, VDL HC	•	•					•											
<b>Berusynth 46 H1</b>	PAO	46	7,9	140	-60	≥ 240	H1 Halal Kosher	HLP HC, HVLP HC, CLP HC, VDL HC	•	•					•		•									
<b>Berusynth 68 H1</b>	PAO	68	11	145	-55	≥ 240	H1 Halal Kosher	HLP HC, HVLP HC, CLP HC, VDL HC	•	•	•				•		•		•							
<b>Berusynth 100 H1</b>	PAO	100	14,5	145	-50	≥ 250	H1 Halal Kosher	HLP HC, CLP HC, VDL HC	•	•	•				•		•		•							
<b>Berusynth 150 H1</b>	PAO	150	19	145	-50	≥ 250	H1 Halal Kosher	HLP HC, CLP HC, VDL HC	•	•	•				•		•									
<b>Berusynth 220 H1</b>	PAO	220	26	150	-50	≥ 250	H1 Halal Kosher	CLP HC	•		•	•	•	•	•											
<b>Berusynth 320 H1</b>	PAO	320	38	150	-45	≥ 250	H1 Halal Kosher	CLP HC	•		•	•	•	•	•											
<b>Berusynth 460 H1</b>	PAO	460	44	150	-40	≥ 255	H1 Halal Kosher	CLP HC	•				•	•												
<b>Berusynth 680 H1</b>	PAO	680	59	155	-35	≥ 260	H1 Halal Kosher	CLP HC	•				•	•												
<b>Berusynth 1000 H1</b>	PAO	1.000	82	165	-35	≥ 260	H1 Halal Kosher	CLP HC	•					•												
<b>Berusynth PG 220 H1</b> Polyglycols	Polyglycol	220	39	220	-36	≥ 200	H1	CLP PG	•		•	•	•	•												<p>The <b>Berusynth PG-series</b> is not miscible with the Berusynth H1-series.</p>
<b>Berusynth PG 460 H1</b>	Polyglycol	460	72	230	-36	≥ 200	H1	CLP PG	•		•	•	•	•												
<b>Berusynth PG 680 H1</b>	Polyglycol	680	110	260	-36	≥ 200	H1	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

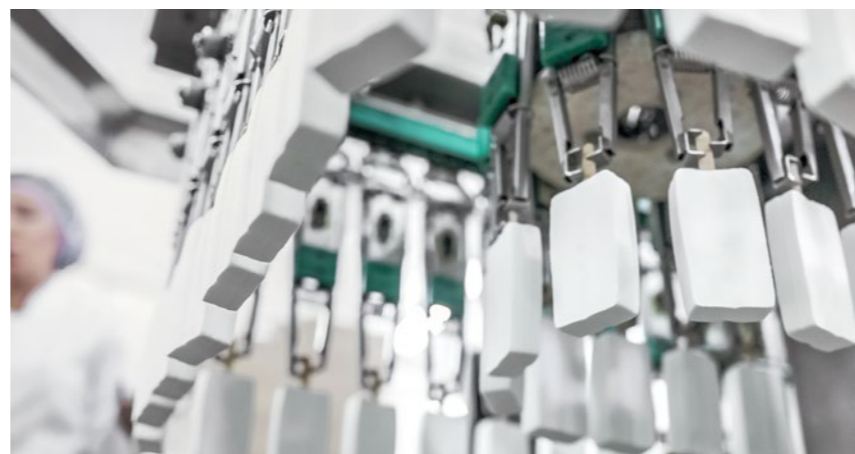
## APPLICATIONS

PRODUCT	TECHNICAL DATA						APPLICATIONS						Properties
	Base oil	Base oil viscosity [mm <sup>2</sup> /s] at 40 °C / 100 °C	Viscosity index	Pourpoint [°C]	Flashpoint [°C]	Certificate Compliance	Transport- and drive chains	Dough divider	Plastics and elastomers	Fat and mesh belt lubrication	Cleaner		
<b>BECEM Plantfluid</b> 	Native	42 9,3	220	-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	
<b>Berudraw 3985</b> 	Native	250 20	90	-30	≥ 230	H1 Halal Kosher	•					Mineral oil free drawing and chain oil on native ester basis, high lubricating performance, allows optimal individual deformations in forming operations, ideal for the lubrication of proofer chains in industrial bakeries, certified according to ISO 21469	
<b>Berufliud WO</b> 	Medical white oil	17 -	120	-9	≥ 160	H1		•				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	
<b>Berulub Fluid W+B</b> 	Medical white oil	70 8,5	110	-6	≥ 225	H1 Halal	•					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	
<b>Beruil SM 350</b> 	Silicone oil	270 110	440	-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	
<b>Berulyth CB 180 H1</b> 	Synthetic oil combination	180 23	150	-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	
<b>Berulyth CG 370 H1</b> 	Polyglycol	370* 58*	230*	-	≥ 200*	H1	•					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	
<b>BECEM Fluid W 68-3H</b> 	Medical white oil	70 9,2	110	-9	≥ 220	3H Halal	•	•				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	
<b>Berulyth CU 250</b> 	Ester	250 24	120	-45	≥ 250	H2	•					High-temperature chain oil, wide temperature range, very good wetting and creeping properties, hot and cold water resistant, good protection against corrosion, no formation of critical residues	
<b>BECEM Fluid SD</b> 	-	-	-	-	-	H1 Halal				•		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	
<b>Beruclean ECO</b> 	-	-	115	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	
<b>Beruclean H1</b> 	-	-	-	-	-	H1				•		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	

Cleaner

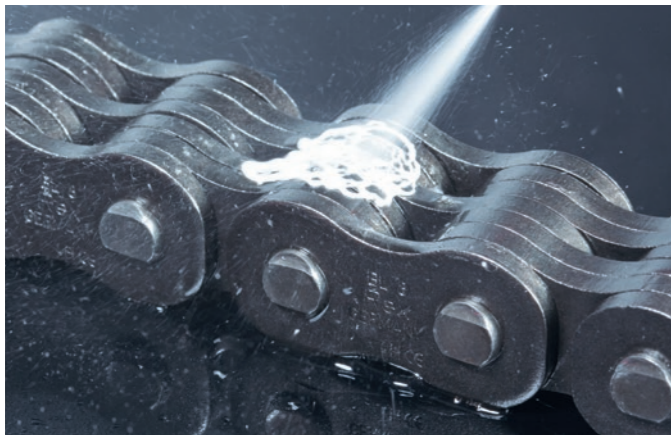
\*Value of the base oil \*\*Halal and kosher certificates refer only to the lubricant

» BECEM 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							Properties
	Base oil	Thickener	Base oil viscosity (mm <sup>2</sup> /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		
<b>BECHEM Fluid W 68-3H Spray</b> 🔧🔧🔧	Medical white oil	-	68	110	-10 +120	3H	•		•				Neutral in smell and taste, water repellent, excellent penetration properties, protects treated machine parts against corrosion, resin and acid free, medical white oil	
<b>Beruclean H1 Spray</b> 👉	-	-	-	-	-	H1						•	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	
<b>Beruglide Spray</b> 🔧🔧🔧	PFPE	PTFE	160	-	-40 +190	H1	•	•			•		Fully synthetic special grease, resistant to oxidation as well as to aggressive media and environmental influences, high compatibility with construction materials, such as elastomers, polymers, (non-ferrous) metals	
<b>Berulub FG-H 2 EP Spray</b> 🔧🔧🔧	PAO	Special calcium complex soap	150	-	-40 +160	H1	•	•					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	
<b>Berulub GD 50 H1 Spray</b> 🔧	-	-	-	-	-	H1	•			•			Multifunctional rust solvent with additional lubricating and anti-corrosion properties, excellent creeping properties, removes rust and strong contaminations even at points difficult to access	
<b>Berulub W+B Spray</b> 🔧🔧🔧	Medical white oil	-	70	110	-10 +120	H1	•		•	•			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	
<b>Berusil P 140 Spray</b> 🔧🔧🔧	Silicone oil	-	260	440	-40 +150	H1	•		•		•		High-performance antiseize, assembly and maintenance product for various materials, especially for non-ferrous metals, plastics and elastomers	
<b>Berusynth 1000 H1 Spray</b> 🔧🔧🔧	PAO	-	1.000	165	-30 +200	H1	•		•				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	
<b>Berusynth H1 Spray</b> 🔧🔧🔧	PAO	-	100	140	-50 +200	H1	•		•				High-performance adhesive chain oil spray, forms a transparent lubricating film, good adhesive properties, high load carrying capacity, solvent free	
<b>Berusynth CB 180 H1 Spray</b> 🔧🔧🔧	Ester	-	180	150	-40 +230	H1	•		•				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	

# Lubrication solutions for industry



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

**CARL BECHEM GMBH**

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