



**Daub**

Automatic-Hanseat



**Special Lubricants for the  
Food Processing and  
Pharmaceutical Industry**



# Various Applications Require Special Products

In view of the rising quality requirements in the food processing industry, the expectations of the food grade lubricants developed by BECHEM are increasing as well.

BECHEM food grade lubricants for lubrication, power transmission or corrosion protection of machines used for the production and processing of food, food related commodities, cosmetics, pharmaceutical products, tobacco products and animal feed.

If incidental contact with food, pharmaceutical products and animal feed cannot be excluded the BECHEM food grade lubricants still offer special features under different operating conditions, such as

- High water resistance
- Oxidation resistance
- Low wear rates
- Compatibility with construction material
- Good adsorption and adhesion on metal and plastics
- Steam resistance

BECHEM food grade lubricants comply with the requirements and standards valid for these types of modern products.

Information on the subject »Food Grade Lubricant« according to NSF H1 and NSF H2:

**NSF H1:** Classified as Food Grade Lubricants, i.e. lubricants which can be applied where incidental food contact cannot be excluded.

**NSF H2:** Classified as lubricants for the general use in the food processing industry, provided food contact is excluded.



# More Performance, more Security

## Advantages of the BERUSYNTH H1 oils Series:

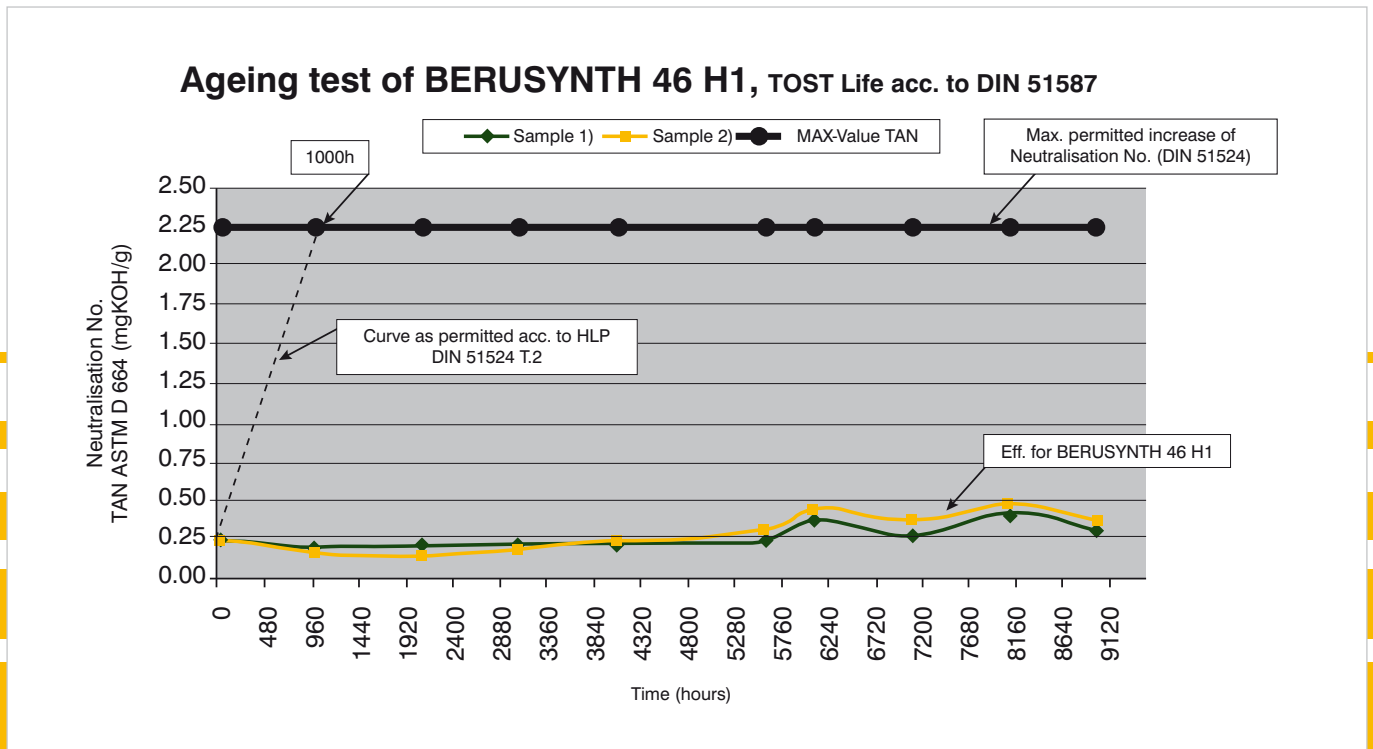
- The viscosity grades meet with the requirements of the machine manufacturers as well as with the DIN and ISO standards
- Thus the viscosity grades are reduced to a minimum
- Products are free from mineral oil
- Products are free from ester
- Neutral towards conventional seals and paints
- Miscible and compatible with remaining quantities of conventional, mineral oil based lubricants
- The individual viscosity grades can be mixed with each other
- BERUSYNTH H1 oils offer extremely long service life



## Explanation (DIN 51587):

The ageing behaviour of a vapour turbine and hydraulic oil containing effective substances acc. to this standard is measured by the increase in neutralisation number during max. 1000 h when treating the oil with oxygen in the presence of water, steel and copper at 95° C (Neutralisation-Ageing-Curve).

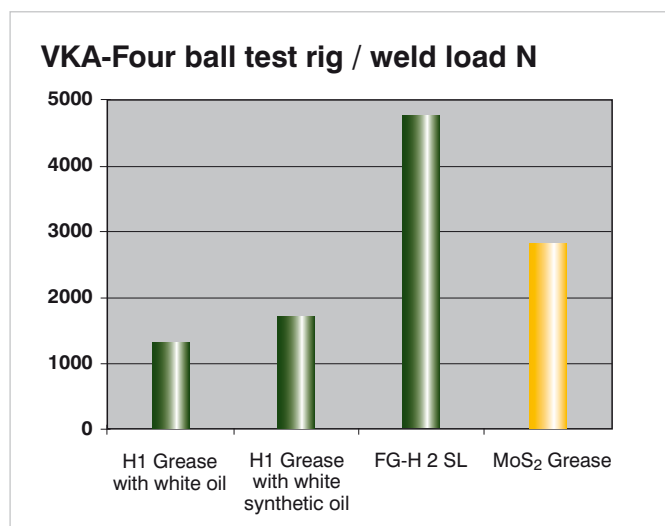
The below ageing test shows that a conventional hydraulic oil achieves the neutralisation number of 2.25 already after 1000 h. The ageing test with our BERUSYNTH 46 H1 was stopped after more than 9000 h since the neutralisation number was far below the maximum allowed increase for hydraulic oils laid down in the DIN standard.



# Lubricating Greases for the Food Processing and Pharmaceutical Industry

When used according to regulations BECHEM food grade lubricants comply with the following requirements:

- The ingredients meet with the international approved lists
- They are harmless with regard to health, smell and taste
- They do not have any negative influence in case of incidental food contact
- They withstand the seasonal, chemical, thermal and mechanical loads of the operating conditions to be expected



Technical Data			
Product	Thickener/ Base Oil	Consistency	Base Oil Viscosity (mm <sup>2</sup> /s) at 40 °C
BECHEM-RHUS FA 37	Al-Complex/ White Oil	2	67
BECHEM-RHUS FA 46	Al-Complex/ White Oil	2	67
BERULUB® FG-H 2 SL	Spec. Ca- Complex/ Synthetic Oil	2	70
BERULUB® FB 34	Al-Complex/ Synthetic Oil	1	400
BERULUB® FB 34-0/00	Al-Complex/ Synthetic Oil	0 00	400
BERULUB® ULTRATEMP 500 T	Synthetic Oil	2	500
BERULUB® SIHAF 2	PTFE/ Silicone Oil	3	1.000
BECHEM-RHUS LONGLIFE LF	Lithium/ Mineral Oil	2	108
BERUSOFT 20	org. Polymer/ Synthetic Oil	0-1	1.400
BERULUB® TOP-PRESS	Lithium/ Mineral Oil	3	108
BERUSOFT 15	org. Polymer/ Synthetic Oil	1	900
BERUGLIDE SPRAY	PFPE		160

			Application											
Service Temperature °C	Approval/Conformity	Solid Substances	Roller Bearings	Slide Bearings, Joints	Slideways, Slide Bars	Pulleys, Cam Disks	Gear Racks	Threaded Spindles	Pneumatic	Central Lubrication	Seals, Stuffing Boxes	Fittings	Small Gears	Elastomers, Plastics
-20 to +120	NSF-H1		■	■						■				
-20 to +120	NSF-H1	special	■	■	■					■		■		
-40 to +160 short term to 200	NSF-H1	special	■	■	■	■	■	■	■	■		■	■	
-25 to +160	NSF-H1	special	■	■	■	■	■		■	■		■		■
-25 to +160	NSF-H1	special	■							■			■	
-20 to +260	NSF-H1	special	■	■	■	■	■	■		■	■	■		■
-40 to +160	NSF-H1	PTFE							■		■	■		■
-30 to +120	NSF-H2	special	■	■	■	■	■	■					■	
-35 to +150	NSF-H2	special			■	■	■	■			■		■	■
-20 to +120	LMBG*	special	■	■	■	■	■	■						
-40 to +150	NSF-H2	PTFE		■	■		■	■			■		■	■
-40 to +190	NSF-H1				■	■	■	■			■	■	■	■



# Lubricating Oils for the Food Processing and Pharmaceutical Industry

Technical Data								Application			
Product	Base Oil	Viscosity (mm <sup>2</sup> /s) at 40°C	Viscosity-Index ca.	Pourpoint (°C) ca.	Flash Point (°C) ca.	Approval/Conformity	Type	General Oil Lubrication Points	Circulation Lubrication	Hydraulic	Fiction Roller Gear
BERUSYNTH 15 H1	synthetic	15	125	-70	210	HLP HC	HLP HC				■
BERUSYNTH 46 H1	synthetic	46	140	-60	260	NSF-H1	HLP HC, HVLP HC, CLP HC, VCL/VDL			■	■
BERUSYNTH 68 H1	synthetic	68	140	-60	260	NSF-H1	HLP HC, HVLP HC, CLP HC, VCL/VDL		■	■	
BERUSYNTH 100 H1	synthetic	100	150	-50	260	NSF-H1	HLP, CLP, VDL	■	■	■	
BERUSYNTH 220 H1	synthetic	220	150	-50	260	NSF-H1	CLP, VDL	■	■		
BERUSYNTH 460 H1	synthetic	460	150	-40	280	NSF-H1	CLP, VDL	■			
BERUSYNTH 680 H1	synthetic	680	160	-40	300	NSF-H1	CLP				
BERUSYNTH 1000 H1	synthetic	1.000	160	-40	300	NSF-H1	CLP				
BERUSYNTH FG-H W32	synthetic	32	130	<-54	240	NSF-H1	Q HC				
BERULUB® FLUID W&B	med. white oil	67	106	-18	225	NSF-H1	AN	■			
BERUFLUID WO	med. lubrication oil	16,5	120	-15	170	NSF-H1	AN				
BECHEM PLANTFLUID	native ester	42	225		>320	NSF-H1	E				
BERUSYNTH FG-H SPRAY	synthetic	100	150	-39	250	NSF-H1	HLP, CLP, VDL	■		■	
BERULUB® W&B SPRAY	med. white oil	67	106	-18	225	NSF-H1	AN	■			
BERUSIL P140 SPRAY	Silicone	290	460	<-50	>330	NSF-H1	SI				
KUBITRAC 3985	native ester	250		-24	255	NSF-H1	E	■			

Planetary Gear	Spur Gear	Worm Gear	Bevel Gear	Centrifuge Gear	Transport and Drive Chains	Larger Transport Chains	Gears with high thermal and mechanical load	Turbo Clutches	Geared Coupling	Central Lubrication	Heat Transfer	Dough Separator	Rotary Piston Blowing Engine	Pneum. Maintenance Units	Vacuum Pumps	Plastics and Elastomers	Screw Compressors	Piston Compressors	Disk and Mesh Belt Lubrication
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## That'Special!

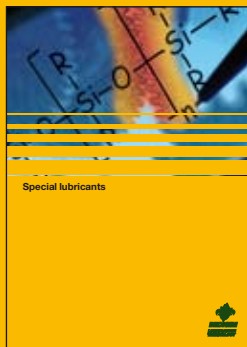
A tradition we are proud of since 1834. This is still today demonstrated by our trademark: the Rhus Flower. After permanent development, BECHEM is today a »Global Player«.

BECHEM special lubricants, industrial lubricants, metal working fluids and solutions for forming technology are based on our extensive experience in the development of special chemistry and on the latest tribologic knowledge. Our know-how with regard to friction, wear and lubrication always takes account of our customers' requirements for economical and ecological optimisation. We feel obliged to tradition and progress. That'Special!

Besides the headquarter in Hagen, BECHEM has two other production sites in Germany – in Mieste and Kierspe. In addition to that, our worldwide distribution network allows us to develop markets all over the world. With daughter companies in France, India, Switzerland and North East China, as well as Joint Ventures in the USA, South Africa, Sweden, Russia and South China, BECHEM shows its international presence.

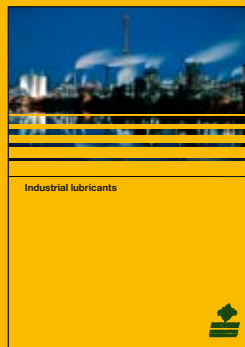
It is our target to supply our customers with high-quality products and to simultaneously meet the corresponding international standards. The quality of our products is confirmed by certification according to the automotive standard ISO/TS 16949. The requirement to our standard is guaranteed by regular internal audits and inspections by the RWTÜV at all sites, as well as by audits carried out by our customers.

Further information material is available either direct from us or at [www.bechem.com](http://www.bechem.com)



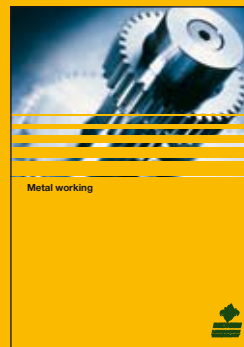
### Special lubricants

- Low and high temperature lubricants
- Plastic lubrication
- Electrical contact lubricants
- Food grade lubricants
- Valve lubricants
- Anti-Friction Coatings



### Industrial lubricants

- High performance multipurpose greases
- Heavy duty and high temperature lubricants
- Hydraulic oils
- Gear lubricants
- »Green« lubricants



### Metal working

- Deep drawing/punching oils
- Coolant lubricants
- Cutting and grinding oils
- Deep drilling oils
- Corrosion protection oils
- Cleaning agents



### Forming technology

- Wire drawing lubricants
- Cold forging oils
- Semi hot/hot forging
- Tube drawing lubricants
- Cold massive forming oils



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