



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



# Various Applications Require Special Products

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.

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.

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 (when filling wine, beer or soft drinks)

BECHEM food grade lubricants meet the standards and requirements of this type of modern products. They comply with the strict regulations of the international organisation for testing and certification of products, NSF International. In addition, many of these products satisfy the Islamic dietary regulations and are certified as Halal.

## Explanations:

**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.

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



# 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
- 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

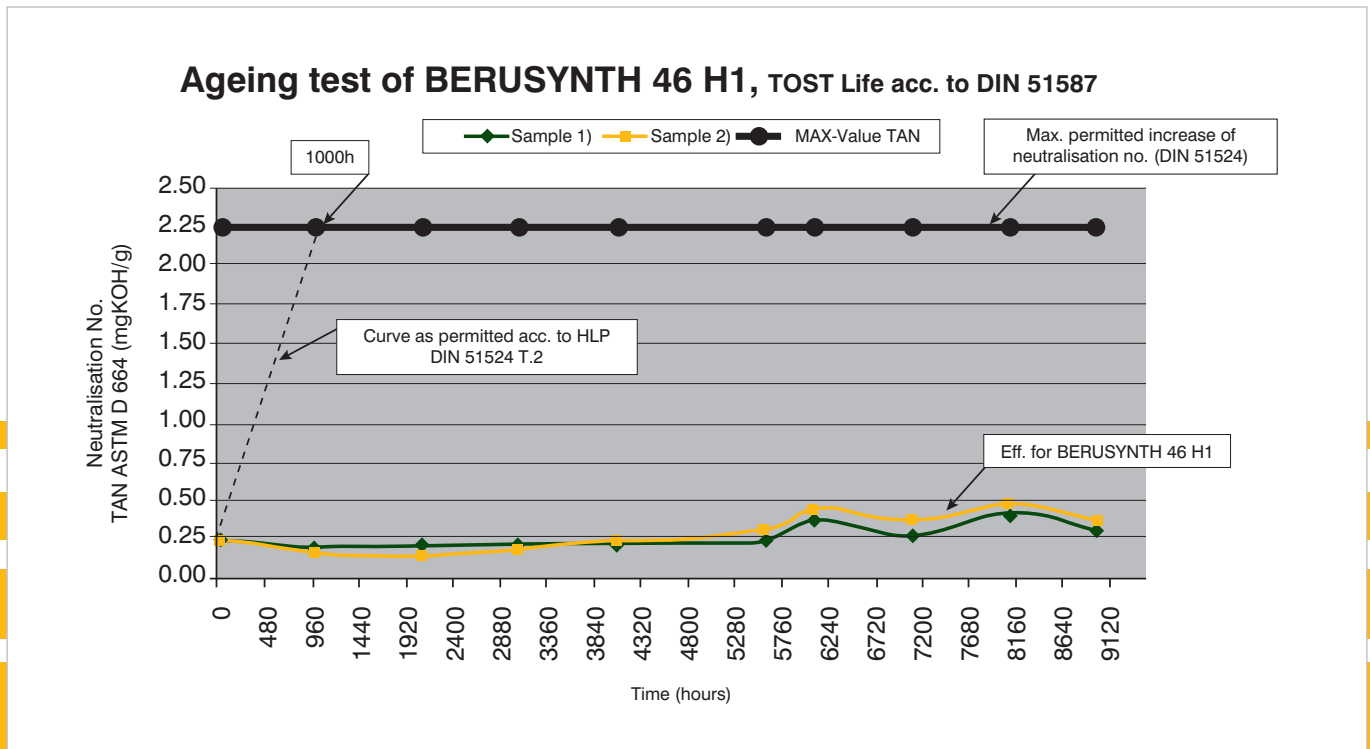


## Ageing test of BERUSYNTH 46 H1

### 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).

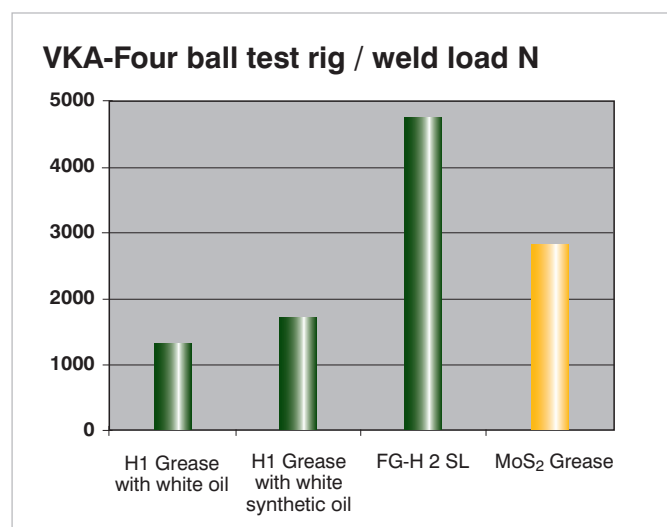
The below ageing test shows that a conventional hydraulic oil achieves the neutralisation number of 2.25 already after 1000 h. The ageing test with our BERUSYNTH 46 H1 was stopped after more than 9000 h since the neutralisation number was far below the maximum allowed increase for hydraulic oils laid 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/ Med. White Oil	2	67
BECHEM-RHUS FA 46	Al-Complex/ Med. White Oil	2	67
BERULUB® FG-H 2 SL	Spec. Ca- Complex/ Synthetic Oil	2	50
BERULUB® FG-H 2 EP	Spec. Ca- Complex/ Synthetic Oil	1-2	150
BERULUB® FB 34	Al-Complex/ Synthetic Oil	1	400
BERULUB® FB 34-0/00	Al-Complex/ Synthetic Oil	0 00	400
BERUTEMP 500 T 2	PTFE/ Synthetic Oil	2	510
BERULUB® SIHAF 2	PTFE/ Silicone Oil	3	3.100
ANTISEIZE 932	Gel/ Med. White Oil	1	70
VASELINE WEISS DAB 10	Hydrocarbon/ Wax	4	not measurable
BERUGLIDE SPRAY	PTFE/ Synthetic Oil	1-2	160
BERUTOX FH 28 KN	org. Polymer/ Synthetic Oil	1-2	400
BECHEM-RHUS LONGLIFE LF	Lithium/ Mineral Oil	2	100
BERUSOFT 15	org. Polymer/ Synthetic Oil	1	900
BERUSOFT 20	org. Polymer/ Synthetic Oil	0-1	1.400
BERULUB® TOP-PRESS	Lithium/ Mineral Oil	3	100

			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	Screw fitting and Connector assembly
			-20 to +120	NSF-H1		■	■						■		
-20 to +120	NSF-H1	Special	■	■	■					■		■			
-40 to +160, short term to 200	NSF-H1 Halal	Special	■	■	■	■	■	■	■	■		■	■		
-40 to +160	NSF-H1 Halal		■	■	■	■	■	■	■	■		■			
-40 to +160	NSF-H1	Special	■	■	■	■	■		■	■		■		■	
-40 to +160	NSF-H1	Special	■							■			■		
-20 to +260, short term to 280	NSF-H1 Halal	Special	■	■	■	■	■	■		■	■	■		■	
-40 to +160	NSF-H1 Halal	PTFE		■					■		■	■		■	
-40 to +1400	NSF-H1	Special										■			■
-20 to +45	NSF-H1				■							■			
-40 to +190	NSF-H1	PTFE			■	■	■	■			■	■	■	■	
-30 to +180, short term to 200	NSF-H2														
-30 to +120	NSF-H2	Special	■	■	■	■	■	■					■		
-40 to +150	NSF-H2	PTFE		■	■		■	■			■		■	■	
-35 to +150	NSF-H2	Special			■	■	■	■			■		■	■	
-20 to +120	LMBG	Special	■	■	■	■	■	■							



# 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 approx.	Pourpoint (°C) approx.	Flash Point (°C) approx.	Approval/Conformity	Type	General Oil Lubrication Points	Circulation Lubrication	Hydraulic	Fiction Roller Gear
BERUSYNTH 15 H1	Synthetic	15	125	-75	170	NSF-H1 Halal	HLP HC			■	■
BERUSYNTH 46 H1	Synthetic	46	140	-60	240	NSF-H1 Halal	HLP HC, HVLP HC, CLP HC, VCL/VDL			■	■
BERUSYNTH 68 H1	Synthetic	68	140	-55	260	NSF-H1 Halal	HLP HC, HVLP HC, CLP HC, VCL/VDL		■	■	
BERUSYNTH 100 H1	Synthetic	100	140	-50	250	NSF-H1 Halal	HLP, CLP, VDL	■	■	■	
BERUSYNTH 220 H1	Synthetic	220	150	-45	250	NSF-H1 Halal	CLP, VDL	■	■		
BERUSYNTH 460 H1	Synthetic	460	150	-40	260	NSF-H1 Halal	CLP, VDL	■			
BERUSYNTH 680 H1	Synthetic	680	155	-35	260	NSF-H1 Halal	CLP				
BERUSYNTH 1000 H1	Synthetic	1.000	165	-35	265	NSF-H1 Halal	CLP				
BERUSYNTH MV 46 H1	Synthetic	46	110	-60	240	NSF-H1 Halal	HLP			■	
BERULUB® FLUID W&B	Med. White Oil	70	105	-18	225	NSF-H1	AN	■			
BERUFLUID WO	Med. White Oil	17	120	-15	170	NSF-H1	AN				
BECHEM PLANTFLUID	Native Ester	42	225	-15	> 320	NSF-H1	E				
BERUDRAW 3985	Native Ester	250	85	≤ -24	255	NSF-H1	E	■			
UNICLEAN NEU	Universal cold cleaning agent. Removes, besides all types of oil and grease, waxes, resins, bitumen, tar and oil carbons.				≥ 65	NSF-H1					
BERUSYNTH H 1 SPRAY	Synthetic	100	140	-50	250	NSF-H1	HLP, CLP, VDL	■		■	
BERUSYNTH 1000 H1 SPRAY	Synthetic	1.000	165	-35	265	NSF-H1	CLP	■			
BERULUB® SPRAY W + B	Med. White Oil	70	105	-18	225	NSF-H1	AN	■			
BERUSIL P140 SPRAY	Silicone	270	460	-40	> 300	NSF-H1	SI				
BERULUB® FETTLÖSER H 1 SPRAY	Degreasing spray and brake cleaner for cleaning of machine parts as well as brake and clutch components from contamination with oil and grease.					NSF-H1					
BERULUB® ROSTLÖSER H 1 SPRAY	Highly effective rust remover with additional lubricating and anti-corrosion properties.					NSF-H1		■			



## That'Special!

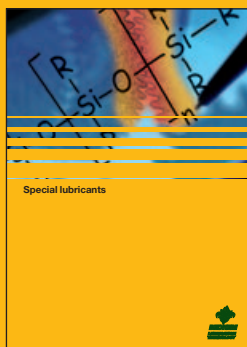
A tradition we are proud of since 1834. This is still today demonstrated by our trademark: the Rhus Flower. After permanent development, BECHEM is today a »Global Player«.

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 and Switzerland, as well as Joint Ventures in the USA, South Africa, Sweden and China, BECHEM shows its international presence.

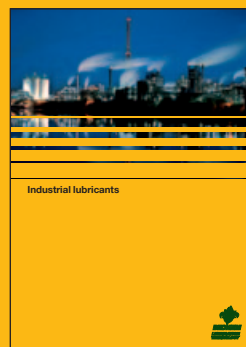
It is our target to supply our customers with high-quality products and to simultaneously meet the corresponding international standards. The quality of our products is guaranteed by our quality management system in accordance with the automotive standard ISO/TS 16949. All our production sites are systematically controlled by internal audits and regular external inspections by the certification association TÜV NORD CERT GmbH. Audits which are regularly carried out by our customers confirm the compliance with our high quality requirements.

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



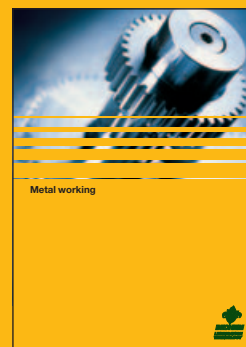
### Special lubricants

- 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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