



High performance chain oils



**BECHEM**  
LUBRICATION  
TECHNOLOGY





# High performance chain oils for extreme temperatures

## BECHEM – Lubrication solutions for industry

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


BECHEM products convince by innovative formulations in most different industrial applications – in machining and forming metal working processes, in coating technology or as for-life lubricant in various technical components.


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

**Tomorrow's technologies. Today.**


## PICTOGRAMS


Low temperatures 


High temperatures 


High loads 

Corrosion protection 

Resistant to water 

Compatible with plastics 

Automotive industry 

Food grade/  
Pharmaceutical technology 

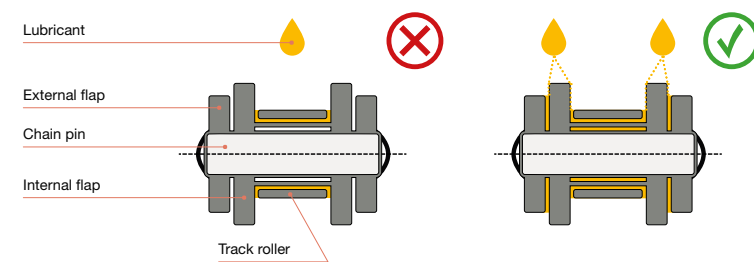


# Best properties for optimum performance

Drive and conveyor chains are working at maximum capacity. And this almost continuously. Therefore high performance chain oils are required for lubrication to guarantee smooth operation at lowest maintenance efforts.

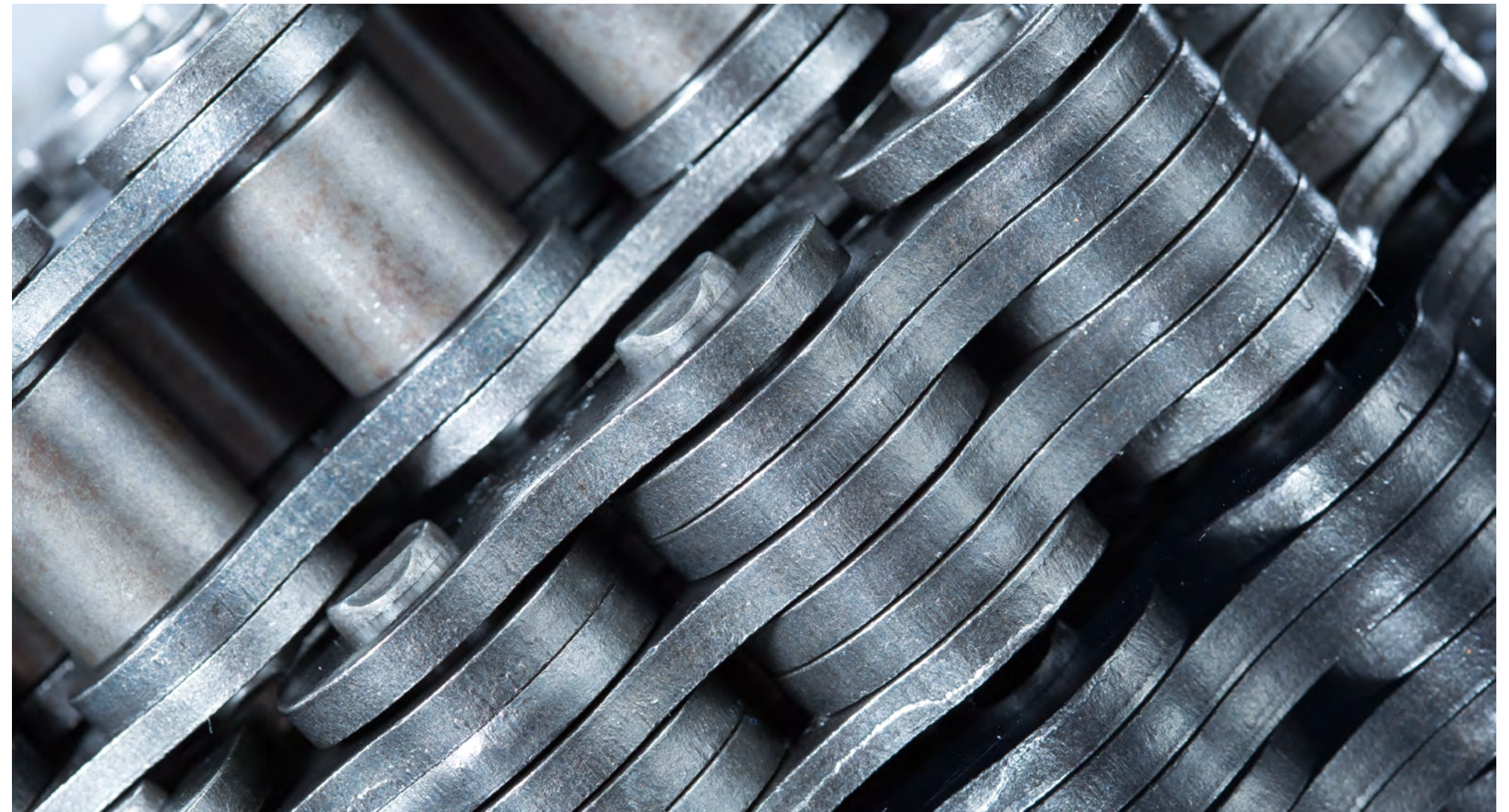
Chains are running under mixed friction, therefore the excellent friction and wear reducing properties of BECHEM high performance chain oils are of special importance. The natural adhesive capacity thanks to polar qualities guarantee lowest oil consumption and avoid dripping and centrifuging off of the oil in case of correct dosage. In combination with their outstanding wetting and creeping properties, BECHEM high performance chain lubricants are especially economical in their application.

The oil that penetrates the chain links is decisive for the lubricating properties, not the lubricant which is visible outside the chain.



The BECHEM chain oil has to be applied in a way that it directly reaches the chain link along the internal and external flaps and the flap edges to lubricate the point of friction.

» Chain damages are mainly the result of wrong lubrication. «





# Powerful and efficient

Low evaporation, low friction and excellent lubrication guarantee the high performance of the chain even at high temperatures. In general chain lubrication is done by periodical application of fresh oil without oil recycling; thus lowest oil consumption is economical and clean. Cleaning of the chains is very simple or even unnecessary since oil residues are dissolved by fresh oil.

Attention: An already wet chain will not absorb more oil, excess oil will drip off!

Besides the use on drive and conveyor chains, BECHEM high-performance chain oils are well suitable for the lubrication and corrosion protection of cams, sliding surfaces and tooth systems.



Many BECHEM products are also available in spray cans.

» Oil structure and additive content are tailored to the specific application. «



BECHEM products meet highest requirements of chain lubrication e.g. in the production of rubber gloves.

## Lubricant consumption of a roller chain

### Guidance on viscosity selection

CRITERION	RESULTS OF OILS WITH A HIGHER VISCOSITY
Duration of lubricating effect	longer, optimum at ISO VG 220/320
Corrosion protection	better
Oil penetration	lower
Pumpability	lower
Wash-out stability	better
Tackiness	better
Dust absorption	lowest at very low and very high viscosity
Evaporation loss	best results at ISO VG 100 to ISO VG 220/320
Chain size	
small/fine chains	worse suitability
large/coarse chains	better suitability
Ability to dissolve residues (cleaning effect)	lower
Load carrying capacity	better, max. at ISO VG 220/320
Wear protection	better, max. at ISO VG 220/320

# Smooth operation non-stop

BECHEM produces a large selection of oils for high temperature applications. The oil structure and additives with or without solid lubricant have been tailored to the corresponding requirements of special fields of application.

Synthetic BECHEM chain oils can be mixed with mineral oils. They thus facilitate the oil change and have a certain cleaning effect by dissolving oil residues. The better tackiness of the oil allows extended lubricating intervals without wear problems and simultaneously is the precondition for good corrosion protection and economic oil consumption. In case of correct application the BECHEM oils do not form any laquer like residues when used at high temperatures.

BECHEM lubricants for the food processing and pharmaceutical industry meet the standards and requirements of the international organisations for product tests and certifications NSF International. In addition, several products are certified as halal and kosher.

**NSF H1:** Labelling for Food Grade Lubricants. These are lubricants which are applied where incidental food contact cannot be excluded.

**NSF H2:** Labelling for lubricants for general use in the food processing technology without food contact.



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

PRODUCT	Base oil						Properties
	Base oil	Viscosity [mm²/s] at 40 °C	Viscosity index	Pour point [°C]	Flash point [°C]	Certificate Compliance	
<b>Berusynth CU 46</b> 	Ester	54	120	-51	≥ 260	NSF-H2	Fully synthetic high-performance chain oil, very good penetration capability, good protection against corrosion, also suitable for high temperatures, low evaporation rate and dust absorption
<b>Berusynth CU 100</b> 	Ester	100	115	-42	≥ 260	NSF-H2, Halal, Kosher	High-temperature chain oil, wide temperature range, good wetting and creeping properties, hot/cold water resistant, good protection against corrosion, no formation of critical residues
<b>Berusynth CU 250</b> 	Ester	250	120	-45	≥ 250	NSF-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 of critical residues
<b>Berusynth CU 3000</b> 	Ester	3000	170	-27	≥ 250	-	High-performance chain oil for long-life lubrication, excellent wash-out stability, excellent corrosion and wear protection, extremely adhesive even at high centrifugal forces, manual application only
<b>Berulit IKP</b> 	Mineral oil	115	-	-39	≥ 190	-	Chain oil to lubricate slow moving, transport and conveyor chains with large chain links and exposed to high tensional stresses, high load-carrying capacity, low dust absorption, very good wear and corrosion protection, contains graphite
<b>Berusynth CA 100</b> 	Ester	100	110	-51	≥ 260	-	High-performance chain oil for chains in drying furnaces in paint shops, compatible with paint, no critical formation of residues, low evaporation rate even at high temperature
<b>Berusynth CF 250</b> 	Ester	250	115	-40	≥ 260	-	High-temperature chain oil for film stretching machines, compatibility with plastics, especially PP-foils, low evaporation rate even at high temperatures, compatible with copper
<b>Berusynth CW 50</b> 	Ester	54	115	-45	≥ 260	-	High-temperature chain oil to lubricate the roller systems of continuous double belt presses (chip board production), good penetration properties and dissolution of residues, low evaporation rate
<b>Berusynth CW 280</b> 	Ester	280	160	-40	≥ 260	-	High-temperature chain oil to lubricate the roller systems and belts of continuous double belt presses (chip board production), very low evaporation rate in the high temperature area
<b>Berusynth CB 180 H1</b> 	Ester	180	150	-45	≥ 240	NSF-H1, Halal, Kosher	Synthetic high-temperature chain oil, optimised for the use in baking and drying ovens, very good penetration capability, hot/cold water resistant, wide service temperature range
<b>Berusynth CG 370 H1</b> 	Polyglycol	370	-	-	≥ 200	NSF-H1	Synthetic high-temperature chain oil, very good corrosion protection, high wash-out stability, no critical formation of residues, above 200 °C dry lubrication after evaporation of the carrier fluid, for chains with large chain links, contains graphite
<b>Berusynth 15 H1 → 1000 H1</b> 	Polyalpha-olefin (PAO)	15 32 46 68 100 150 220 320 460 680 1000	125 140 140 145 145 145 150 150 150 155 165	-65 -65 -60 -55 -50 -50 -50 -45 -40 -35 -35	≥ 170 ≥ 220 ≥ 240 ≥ 240 ≥ 250 ≥ 250 ≥ 250 ≥ 250 ≥ 255 ≥ 260 ≥ 260	NSF-H1, Halal, Kosher	High-performance oil to lubricate transportation chains, drive chains and machines (hydraulics, gears, circular lubrication, fans, air compressors, etc.), effective corrosion and wear protection, neutral towards conventional seals and paints, neutral in smell and taste
<b>Berusynth CP 20</b> 	Ester	13,5	-	-63	≥ 160	-	Low-temperature chain oil, effective corrosion and wear protection, good dry running properties based on solid lubricant content, pumpable up to -55 °C, sprayable in oil-air-systems
<b>Berusynth CP 73</b> 	Polyglycol	118	-	-42	≥ 200	-	High-temperature chain oil, wide temperature range, good protection against corrosion, reduces wear, good emergency running properties, no critical formation of residues, good creeping and penetration capability
<b>Berusynth CP 80</b> 	Mineral oil	1200	-	-15	-	-	Chain lubricant for extended lubrication intervals in outdoor applications, best adhesion after evaporation of the solvent, good dry running properties based on solid lubricant MoS <sub>2</sub>
<b>Berusynth CC 100</b> 	Synthetic oil	100	133	-39	-	-	High-performance chain oil developed for cleaning purposes during operation, excellent cleaning effect, suitable for automatic lubrication systems, tailored to the Berusynth product series CU and CW

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



# High performance oils under test

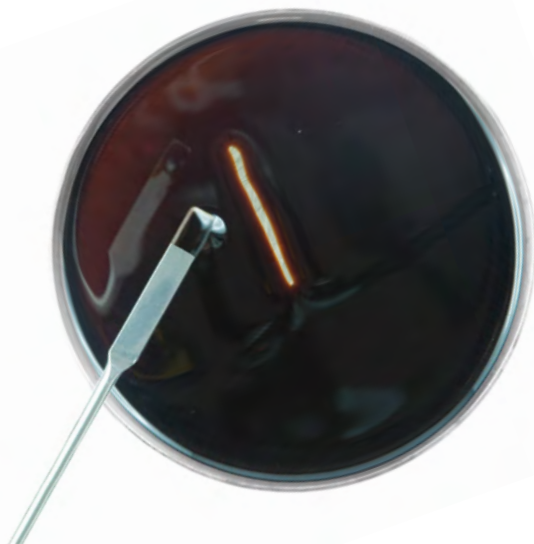
In the BECHEM laboratories, very modern and practical tests guarantee the permanent development and increased performance of the chain oils.

## Excellent evaporation behaviour

Here we show a less suitable synthetic chain oil in comparison to Berusynth CU 250 in the evaporation test at 210 °C. The result: hard and brittle residues with the comparison oil contrary to almost unchanged oil structure with Berusynth CU 250 after a test duration of 3 days.



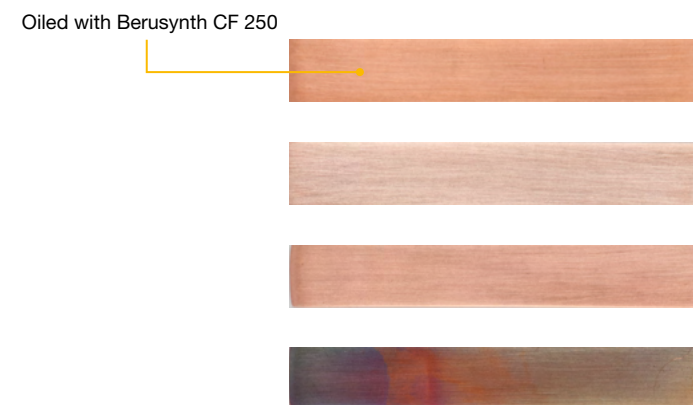
synthetic chain oil



Berusynth CU 250

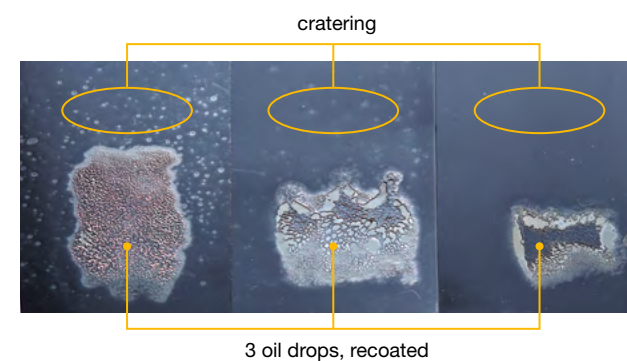
## Optimised behaviour towards copper

During the test Berusynth CF 250 shows an optimised behaviour towards copper, which among others offers a special advantage when the chains are applied in film stretching machines.



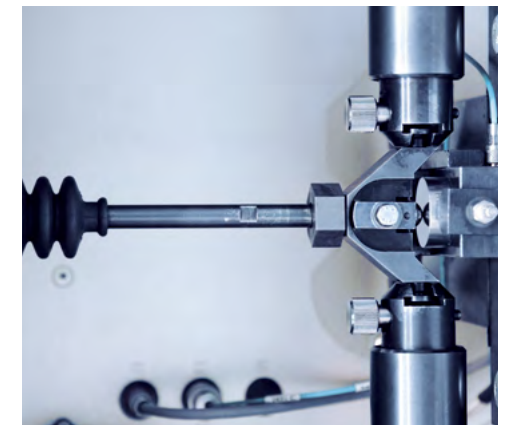
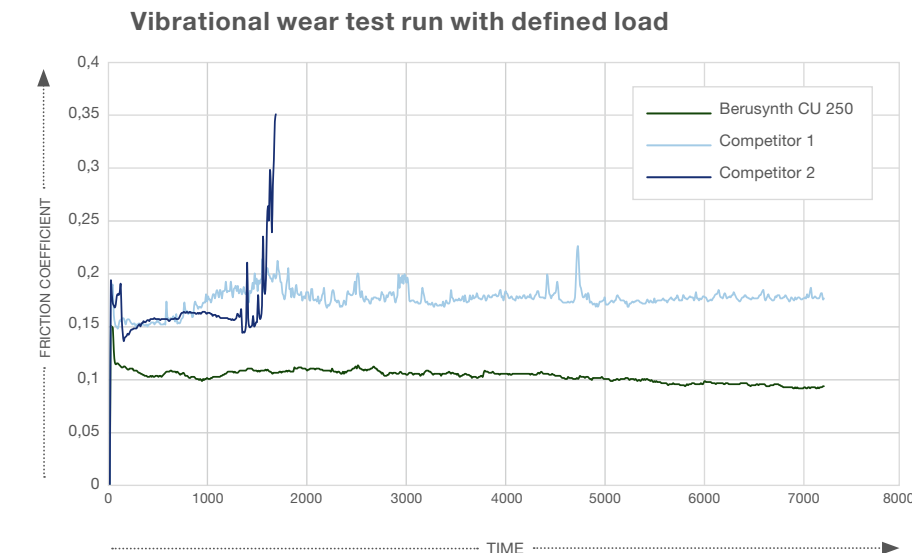
## Excellent paint compatibility

The photo shows test sheets for cratering. Three synthetic chain oils are compared, (1) an unsuitable product with strong cratering and damaged paint, (2) a less suitable product, (3) the suitable Berusynth CA 100 approved for this water soluble paint.



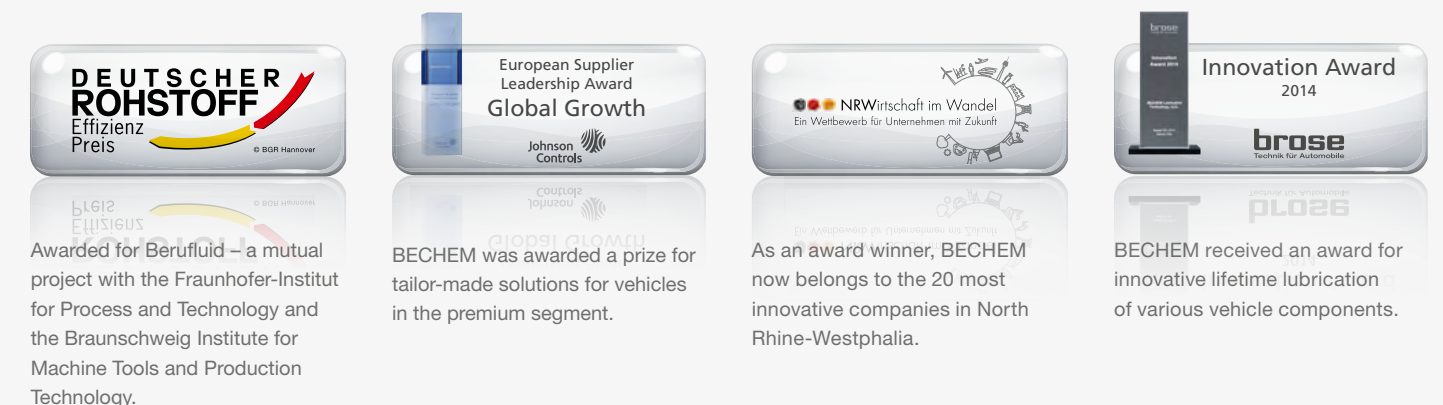
## Wear protection and friction value SRV test at temperatures above 200 °C

Even with a vertical contact area Berusynth CU 250 shows a considerably increased lifetime in the SRV test compared to conventional synthetic chain oils. Low and uniform friction means reliable lubrication without intermediate relubrication, even in case of extended lubrication intervals.



## Worth their price – BECHEM lubricants

High-quality lubricants are indispensable products that are not only worth their price but that have also been honoured with numerous well-known awards. They have earned this status by making a decisive contribution to performance, energy efficiency and sustainability in a variety of industrial applications.



# Lubrication Solutions for Industry



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