

# Cutting and Grinding Oils



**BECHEM**  
LUBRICATION  
TECHNOLOGY





# Non water-miscible coolants

## 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 metal working fluids today.





BECHEM products convince through innovative formulations in the most varied industrial applications – in machining and forming metal working processes, in coating technology and as lifetime 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.**

## PICTOGRAMS

### APPLICATIONS

- Broaching 
- Deep drilling 
- Tool production 
- Automotive industry 

### PROPERTIES

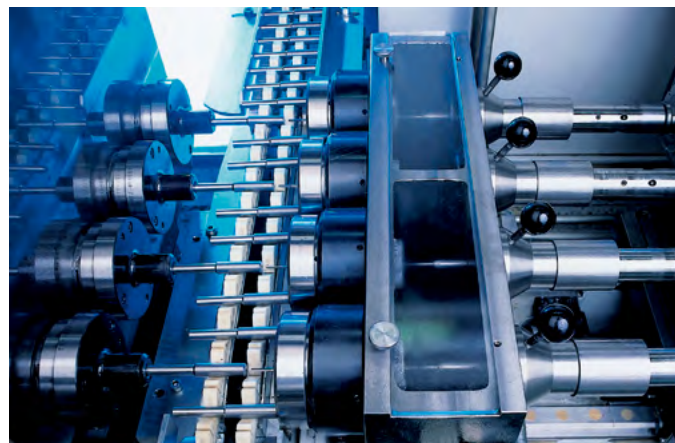
- Extended tool life 
- Chlorine-free 
- Low foaming 
- Corrosion protection 
- Good rinsing performance 
- Minimum quantity lubrication 
- Biodegradable 



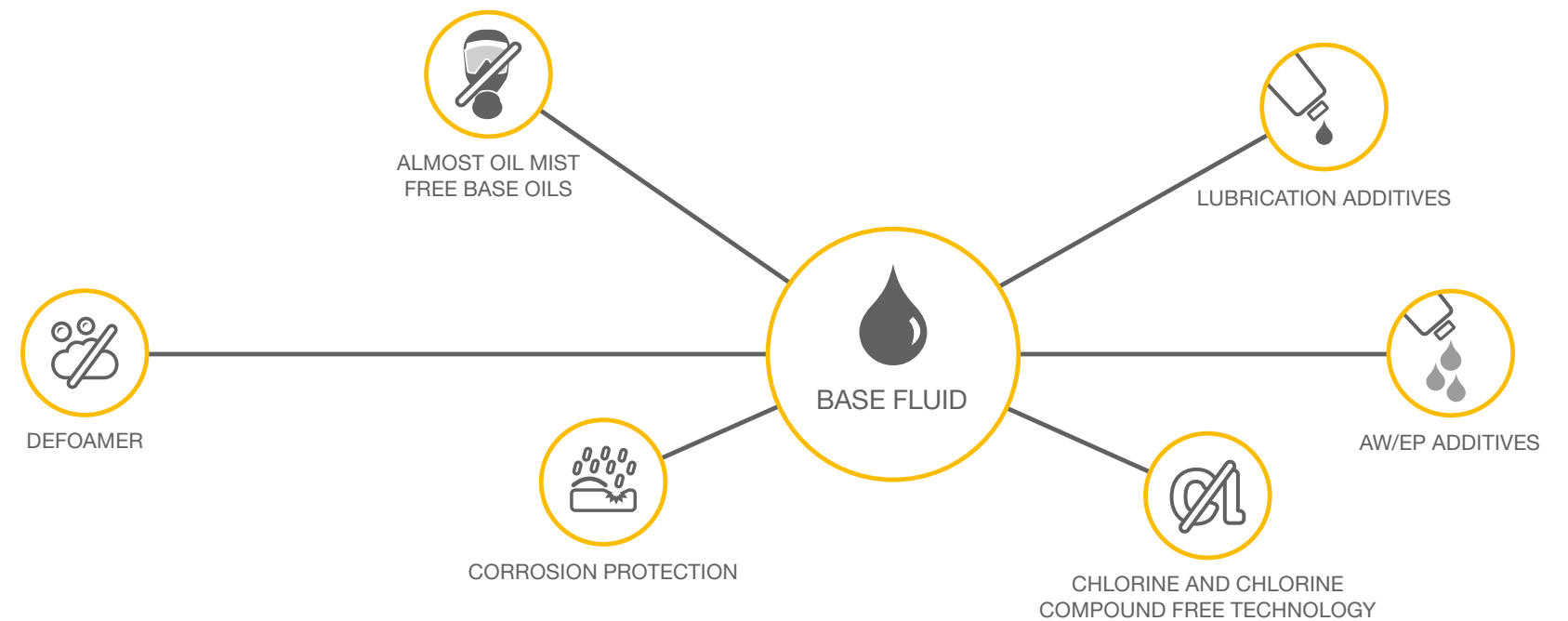
## Maximum process reliability













BECHEM process fluids have proven their reliability in various processes. Based on innovative additive components, these fluids guarantee reliable and economic machining of standard alloyed steel, high-tensile special materials and nickel alloys. The BECHEM lubricant systems allow production of the most demanding products with excellent surface qualities from highly sensitive aluminium alloys and lightweight construction materials. We put great emphasis on the compatibility of the BECHEM products with materials and systems; we make this an integral part of our research right from the starting phase of the development of BECHEM high-performance lubricants.

The aim of BECHEM's development work is to provide economic products and special high performance solutions for a wide range of applications. Resource-saving ingredients, low-consumption formulations and high wear protection guarantee maximum economy and excellent machining results.



High-performance oils for demanding cutting operations



PRODUCT		Materials to be processed	Viscosity [mm²/s] at 40 °C	Flash point [°C]	Performance additives	Cutting operations	Process / Applications	Properties
Cutting and grinding oils	<b>Berucut SFO 205</b> 	Cast iron, steel, non-ferrous metals	5.5	≥ 120	•	easy	Honing, grinding, finishing	Achieves excellent surface qualities
	<b>Berucut SFO 7 HC</b> 	Cast iron, steel, stainless steel, hard metal, titanium	7	≥ 160	•	easy	Honing, grinding, engraving	Very good surface qualities and very low evaporation tendency, high sludge carrying properties with low formation of residues
	<b>Berucut 10</b> 	Cast iron, steel, non-ferrous metals, aluminium	9	≥ 150	•	easy	Turning, drilling, milling, grinding	Achieves excellent surface qualities, formation of built-up edges is efficiently prevented, also suitable as multipurpose oil for hydraulic, gear and circulation lubrication
	<b>Berucut SCO 310</b> 	Steel, stainless steel	12	≥ 148	••	easy	Turning, drilling, milling, grinding, deep drilling, thread cutting, tooth grinding	High-performance AW/EP-additives guarantee high load-carrying performance and reduced tool wear, support high cutting speeds, excellent rinsing capacity
	<b>Berucut 15</b> 	Cast iron, steel	15	≥ 150	••	easy to medium	Turning, drilling, milling, grinding, deep drilling, tooth grinding	High-performance AW/EP-additives guarantee high load-carrying performance and reduced tool wear, support high cutting speeds, excellent rinsing capacity, temperature resistant
	<b>Berucut SCO 215</b> 	Steel, stainless steel	15	≥ 190	••	medium	Turning, drilling, milling, grinding, deep drilling, thread production, tooth grinding	High-performance AW/EP-additives guarantee high load-carrying performance and reduced tool wear, low evaporation tendency, very good rinsing capacity
	<b>Berucut SCO 415</b> 	Steel, stainless steel	15	≥ 190	••	medium	Turning, drilling, milling, grinding, deep drilling, thread production, tooth grinding	High-performance AW/EP-additives guarantee high load-carrying performance and reduced tool wear, low evaporation tendency, very good rinsing capacity
	<b>Berucut 22</b> 	Cast iron, steel, non-ferrous metals, aluminium	22	≥ 200	•	easy	Turning, drilling, milling, grinding	Achieves excellent surface qualities, formation of built-up edges is efficiently prevented, also suitable as multipurpose oil for hydraulic, gear and circulation lubrication
	<b>Berucut SCO 22</b> 	Cast iron, steel	22	≥ 185	••	easy to medium	Turning, drilling, milling, grinding, deep drilling, tooth grinding	High-performance AW/EP-additives guarantee high load-carrying performance and reduced tool wear, support high cutting speeds, excellent rinsing capacity, temperature resistant
	<b>Berucut SCO 322 HC</b> 	Steel, titanium, stainless steel, non-ferrous metals	23	≥ 180	••	medium	Turning, drilling, milling, grinding, deep drilling, thread production, tooth grinding	High-performance AW/EP-additives guarantee high load-carrying performance and reduced tool wear, support high cutting speeds, excellent rinsing capacity, temperature resistant
Multi-functional oil	<b>Berucut 32</b> 	Cast iron, steel, non-ferrous metals, aluminium	31	≥ 216	•	easy	Turning, drilling, milling	Achieves excellent surface qualities, formation of built-up edges is efficiently prevented, also suitable as multipurpose oil for hydraulic, gear and circulation lubrication
	<b>Beruform 5032 D</b> 	Steel, non-ferrous metals	31	≥ 200	•	easy	Turning, drilling, milling	Multifunctional oil suitable for metal working processes and as hydraulic and machine oil, synergistic effects in case of leakages, excellent seal compatibility, good foam behaviour

All indications and values correspond to latest knowledge and are reference values only. They do not represent any product specification.

● = low ... ●●●●● = very high

# Successful even under the most severe conditions

BECHEM process oils of the Berucut series guarantee the best machining results even under the most severe conditions. Grinding processes exposed to high thermal stress, deep drilling operations in special materials, broaching processes with maximum feed rates, as well as optimised minimum quantity lubrication meet all challenges in serial production and always fulfil the highest expectations. The special BECHEM formulations set the standard in this industry.

BECHEM is a pioneer for innovations in national and international research projects. Our specialists in research, development and application technology create benefits and take responsibilities for processes that are exposed to permanent changes. BECHEM convinces as a strong partner with extraordinary expertise and product innovations.



BECHEM coolant lubricants for easy to demanding machining operations



PRODUCT		Materials to be processed		Viscosity [mm²/s] at 40 °C	Flash point [°C]	Performance additives	Cutting operations	Process / Applications	Properties
Broaching oils	<b>Berucut RMO TC 18 Package</b> 	Steel, stainless steel		18	≥ 160	••••		Vertical broaching (ball tracks)	Additive package for the combination e.g. with Berucut RMO TC 22, alternative to chlorine-containing products
	<b>Berucut RMO TC 22</b> 	Steel, stainless steel		22	≥ 160	•••	medium	Fast broaching, sawing, thread production	High-performance AW/EP-additives for high load-carrying capacity and high cutting performance, good rinsing capacity
	<b>Berucut RMO 244</b> 	Steel, stainless steel		22	≥ 150	•••	demanding	Vertical broaching, sawing, thread production, cold massive forming	High-performance AW/EP-additives for high load-carrying capacity and high cutting performance, good rinsing capacity
	<b>Berucut RMO 822-8</b> 	Steel, stainless steel		29	≥ 160	••••	demanding	Fast broaching, sawing, thread production, cold massive forming	High-performance AW/EP-additives for high load-carrying capacity and high cutting performance, good rinsing capacity, alternative to chlorine-containing products
	<b>Berucut RMO 35 ZF</b> 	Steel, stainless steel		35	≥ 150	•••••	demanding	Broaching (gears), broaching of internal and external profiles, sawing, thread production	High-performance AW/EP-additives for high load-carrying capacity and high cutting performance, good rinsing capacity, low evaporation tendency
Deep drilling oils	<b>Berucut TBO 710</b> 	Steel, stainless steel		10	≥ 165	•••••	demanding	All types of deep drilling	Highest cutting performance and powerful additive package for excellent surfaces, formation of built-up edges is efficiently prevented, excellent cooling properties
	<b>Berucut TBO 315 ZF</b> 	Steel, stainless steel		15	≥ 145	•••	medium to demanding	All types of deep drilling, peeling, rolling, burnishing	Highest cutting performance and powerful additive package for excellent surfaces, formation of built-up edges is efficiently prevented, excellent cooling properties, supports demanding machining processes where cross holes are no problem
	<b>Berucut TBO 315</b> 	Steel, stainless steel		16	≥ 150	••	medium	All types of deep drilling, peeling, rolling, burnishing	Best cutting performance and powerful additive package for excellent surfaces, prevention of built-up edges, good cooling properties, for demanding machining processes where cross holes are no problem, for steels with a tensile strength of up to 800 N/mm²
	<b>Berucut TBO 622</b> 	Steel, stainless steel		22	≥ 155	••••	demanding	All types of deep drilling, broaching, thread production	Best cutting performance and powerful additive package for excellent surfaces, prevention of built-up edges, good cooling properties, for demanding machining processes where cross holes are no problem, for steels and nickel alloys with a tensile strength of up to 1300 N/mm²
	<b>Berucut TBO 422</b> 	Steel, stainless steel, aluminium, non-ferrous metals		23	≥ 170	•••	medium to demanding	Deep drilling, peeling, rolling, burnishing, broaching, thread production	Highest cutting performance and powerful additive package for excellent surfaces, suitable for steels, aluminium and nickel alloys with a tensile strength of up to 800 N/mm²
Minimum quantity lubricants	<b>Berucut MQL-AP 20</b> 	Steel, stainless steel, aluminium, non-ferrous metals		27	≥ 180	••	medium	Turning, drilling, milling, broaching, sawing, punching, bending, rolling, pressing, thread production	Synthetic coolant, contains PAO, low evaporation tendency
	<b>Berucut MQL-E 32</b> 	Steel, stainless steel, aluminium, non-ferrous metals		35	≥ 230	••	medium	Turning, drilling, milling, broaching, sawing, punching, bending, rolling, pressing, thread production	Non water miscible coolant, readily biodegradable
	<b>Berucut 20 ZF</b> 	Steel, stainless steel, aluminium, non-ferrous metals		35	≥ 140	•••	demanding	Turning, drilling, milling, broaching, sawing, punching, bending, rolling, pressing, thread production	Non water miscible coolant, readily biodegradable
	<b>Berucut SCO 446 ECO</b> 	Steel, stainless steel, aluminium, non-ferrous metals		41	≥ 200	••	medium	Turning, milling, deep drilling, sawing, rolling, thread production, tooth grinding	Synthetic coolant based on readily biodegradable base oils

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# Lubrication Solutions for Industry



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