



Beruf fluid  
Coolant Lubricants



**BECHEM**  
LUBRICATION  
TECHNOLOGY





# Beruf fluid

## Coolant lubricant solutions

### BEICHEM – Lubrication solutions for industry

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












BEICHEM 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 BEICHEM products are readily available worldwide.









**Tomorrow's technologies. Today.**

### PIKTOGRAMMS

#### APPLICATIONS

- Roller bearings 
- Plain bearings 
- Industrial fittings 
- Drilling 
- Deep drilling 
- Milling 
- Grinding 
- Turning 
- Automotive industry 
- Aviation industry 
- Medical technology 

#### PROPERTIES

- High loads 
- Resistant to water 
- Corrosion protection 
- Good rinsing performance 
- Low foaming 
- Adjustable viscosity 
- Safe working environment 
- Extended tool life 



# A new basis for cutting operations

Beruf fluid is an example for premium products in the range of water miscible coolant lubricants. As trend-setting boron-free product concept which is free from formaldehyde releasing agents, Beruf fluid eliminates the need for mineral oil. The innovative technology was honoured with the first German raw material efficiency prize in 2011. This milestone in coolant technology is considered as the first step of sustainable lubricant development. The consequent development from the first prototypes to a complete range of coolant lubricants resulted in the realisation of numerous process innovations in metal working applications.

Of course, Beruf fluid products are REACH compliant and meet the latest regulatory modifications in the field of coolant lubricants.



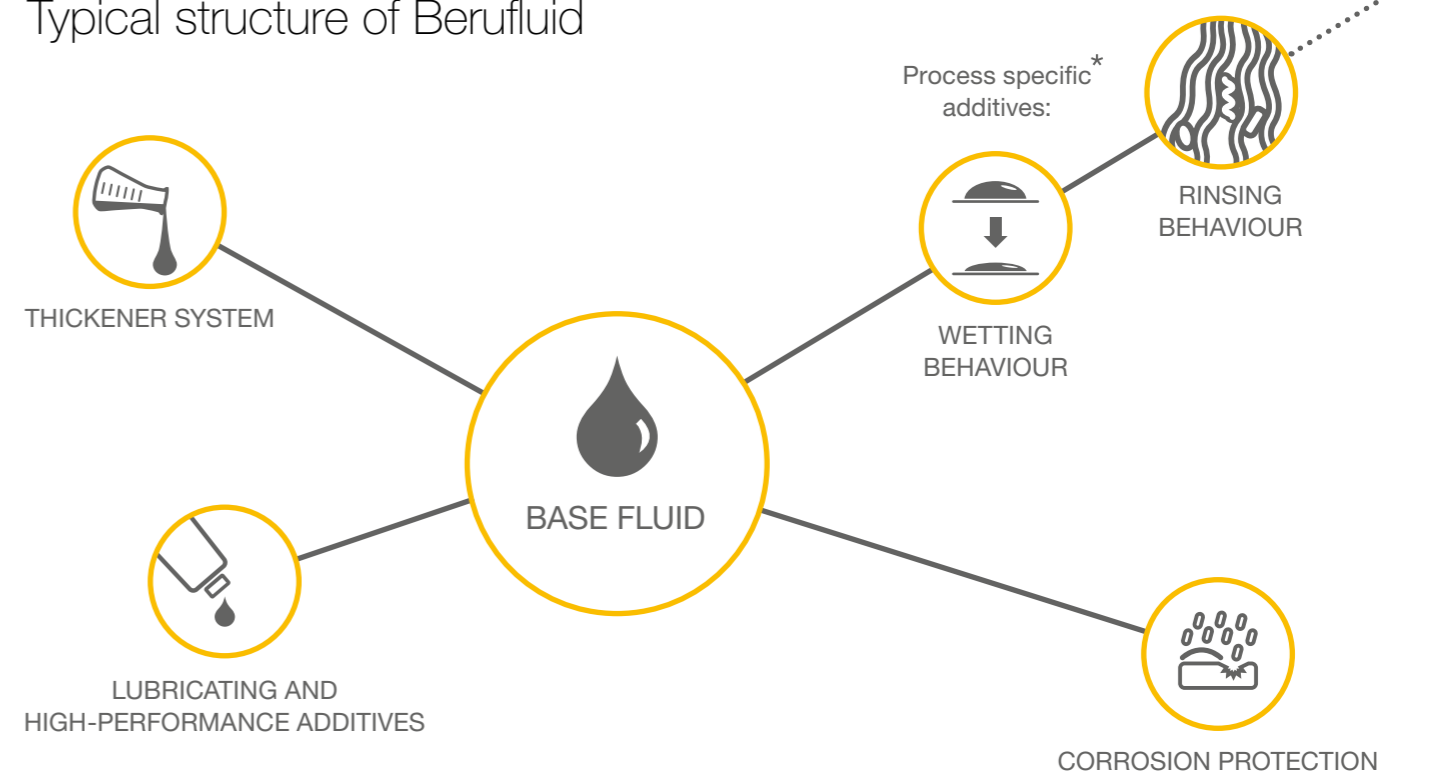
## Advantages of Beruf fluid

### Cost savings and resource conservation



With the unique processing oils of the Beruf fluid range considerable improvements in cost effectiveness can be realised. If, for example, we have a look at energy costs for re-cooling of the processing oils and the specifically higher pressure of the system pumps, these cost savings become evident. In many cases, the elimination of fire protection measures and insurances allows optimised processes and costs. An improved working area – no formation of aerosols and precipitation – is a very convenient side effect.

### Typical structure of Beruf fluid



\* Certain properties, such as excellent wetting, rinsing and flow behaviour, can be embedded in coolant formulations.

# The adequate solution

In cutting operations there is a complex relation between work piece, tool, machine and lubricant with a variety of parameters. Therefore coolants must always be adjusted to new machine types with special material, process and manufacturer requirements.

Besides aluminium and magnesium alloys those materials which are difficult to machine, such as nickel alloys, different sinter metals as well as molybdenum and tungsten alloys are of growing importance. Simultaneously, sustainability of products and processes is more and more in the focus of coolant users.

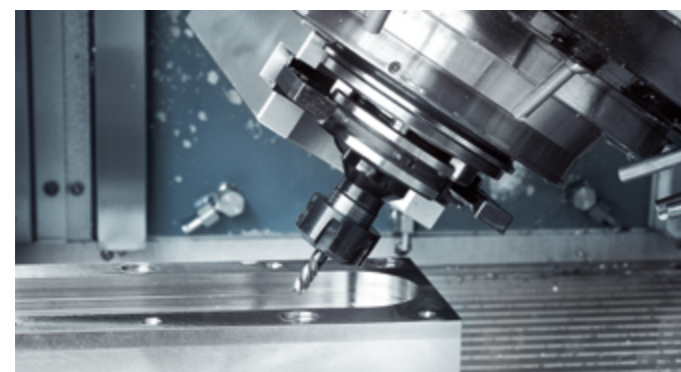
The trendsetting product concept Berufluid is the answer to these trends. In close cooperation with scientific associations and users this fluid technology is permanently adjusted to the changing requirements. In case the machining processes require the use of non water soluble lubricating additives, BECHEM offers high-performance alternatives with their range of emulsions and processing oils.

PRODUCT	Materials to be processed	Boron free	FAD-free *	Lubricating performance	Process	Properties
<b>Berufluid ST 2000</b> 	Cast iron, steel, titanium, nickel alloys	•	•	•	High Speed Grinding (HSG)	Excellent foam control, optimised residue behaviour, very good filterability
<b>Berufluid ST 2003</b> 	Cast iron, steel, titanium, nickel alloys	•	•	••	General cutting and grinding operations	High performance, excellent cooling properties, extended tool life, very good corrosion protection, very good filterability, low foaming, for individually and centrally supplied systems
<b>Berufluid ST 1003</b> 	Cast iron, steel, titanium, nickel alloys	•	•	•••	Mineral oil free, water-based, viscous high-performance cutting systems, gear shaping	High performance, high biostability, excellent cooling properties, extended tool life, low material drag-out, very good demulsifying behaviour, compatible with aqueous cleaners
<b>Berufluid NE 1004</b> 	Yellow metals, cast iron, steel	•	•	••	General cutting operations	External non-ferrous metal inhibition, universal use, very good corrosion protection, very good filterability, very good demulsifying behaviour, very low material drag-out
<b>Berufluid AS 1006</b> 	Cast iron, alloy steel, aluminium	•	•	••	General cutting and grinding operations	Fully synthetic, high-performance formulation, excellent rinsing properties, very good temporary corrosion protection, low adhesion tendency, good biostability, very good foam behaviour
<b>Berufluid HM 2005</b> 	Cast iron, steel, titanium, carbide	•	•	••	High-performance grinding	Excellent cooling properties, extended tool life, very low material drag-out, inhibition against cobalt leaching, good corrosion protection
<b>Berufluid AL 1004</b> 	steel, titanium, aluminium	•	•	••••	Turning, drilling and milling, produces excellent surfaces	High performance, extended tool life, very good corrosion protection, prevents stain formation, excellent cooling properties, low foaming, gentle to the skin, for individually and centrally supplied systems
<b>Berufluid ST 2008</b> 	Cast iron, steel, titanium, stainless steel	•	•	••••	High-performance grinding, disc grinding, processing of: ball bearings, crankshafts, gears, camshafts, piston rings, piston rods	High performance, excellent cooling properties, extended tool life, very good corrosion protection, very good filterability, gentle to the skin, demulsifies tramp oils, reduced aerosol formation
<b>Berufluid AS 1008</b> 	steel, titanium, aluminium	•	•	•••••	Drilling turning, milling, optical construction parts, control and regulation technology	High performance, extended tool life, excellent cooling properties, very good filterability, reduced aerosol formation, for individually and centrally supplied systems

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

\* free from formaldehyde release agents (FAD)

• = low ... ••••• = very high



Precision milling with Berufluid

## Awarded – BECHEM lubricants

High quality lubricants are indispensable products which are worth their investment, they are winners of prestigious awards – by making a decisive contribution to performance, energy efficiency and sustainability of products and processes.



Award for Berufluid – a joint project with Fraunhofer Institute IVV and IWF Braunschweig.



BECHEM as an award-winner is one of the 20 most innovative companies in North Rhine-Westphalia.



BECHEM wins the NRW 2015 Efficiency Award for innovative and resource-efficient coating in cold massive forming.



BECHEM wins award for tailored solutions in the premium vehicle sector.



BECHEM wins the award for innovative lifetime lubrication of different vehicle components.

# Lubrication solutions for industry



**CARL BECHEM GMBH**

Weststr. 120 · 58089 Hagen · Germany · Phone +49 2331 935-0 · Fax +49 2331 935-1199 · [bechem@bechem.de](mailto:bechem@bechem.de) · [www.bechem.com](http://www.bechem.com)