



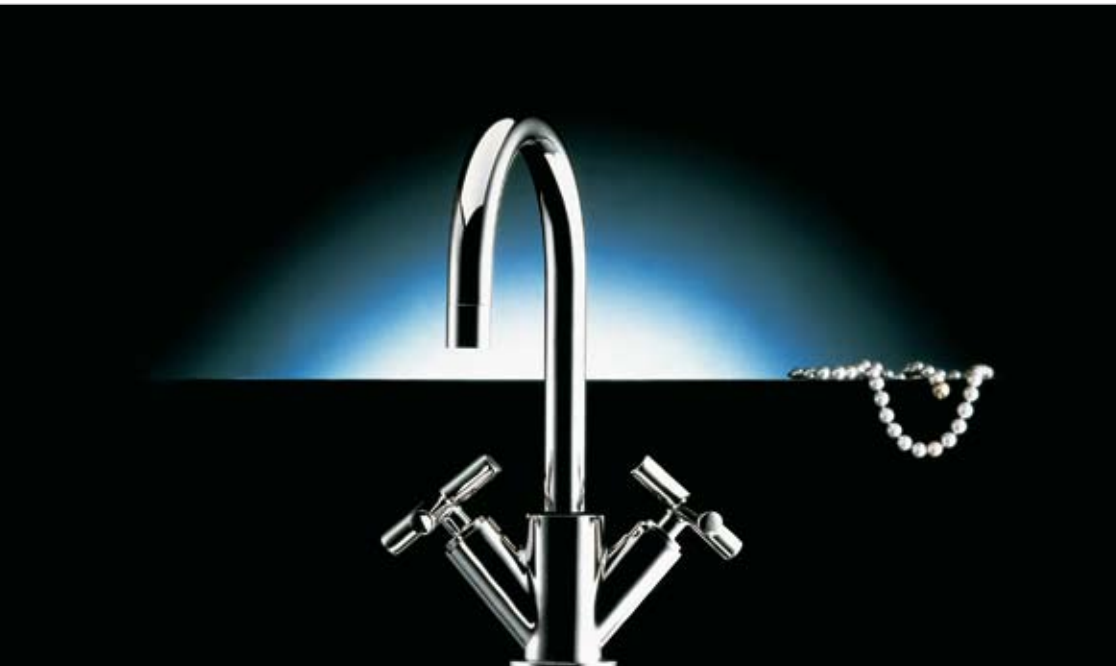
**Special lubricants  
for the fitting industry**



# Clear concepts for clean results

Tailor-made and intelligent problem solutions in the demanding and complex field of special valve lubricants require intensive research and a lot of experiences. Therefore BECHEM and the fitting industry closely cooperate to find new, innovative concepts for the special challenges. The result: The fulfilment of all technical, chemical and constructive criteria.

Close contact with our customers and permanent discussions with our partners allow us to formulate the targets and, above all, the specific lubricant requirements. Only then our potential of know-how and experience can take effect, which gives you the possibility to clearly select the suitable lubricant.



## Clear standards for smooth processes

BECHEM special lubricants for the fitting industry comply with the requirements and standards for this type of modern products.

### Guideline for the hygienic evaluation of lubricants in contact with drinking water (sanitary lubricants)

This guideline is based on three parts: the positive list of usable raw materials for the production of substances and materials, the compulsory test procedures (migration test procedure) and the permitted test values which represent the limit values.

Thus this guideline complies with the basic structure of the future EAS – »European Acceptability System for Materials in Contact with Drinking Water«.

### ACS – French Approval for Drinking Water

Three different accredited test laboratories in France analyse lubricants with regard to their conformity with the French positive list for drinking water.

### NSF-Standard 61

NSF international is an accredited and independent consultant for the field of health and environment established in the USA and 37 countries. In Europe, and thus also in Germany, NSF is approved according to standard DIN EN 45011. The NSF test procedures and results are accredited in Europe and Germany. This institute is the biggest and most competent of its type. In the field of drinking water NSF Standard 61 is valid.

### WRAS (WRC)

Water Research Commission is an institute located in Great Britain which analyses lubricants with regard to their microbiological quality and which grants approvals for products which do not affect drinking water.

### BAM – Federal Office for Material Research and Analysis

The BAM in Berlin carries out analyses of lubricants and sealings for oxygen valves and units and determines the maximum service temperature.

### DVGW – German Association of the Gas and Water Net

The DVGW stands for the technical autonomy in the field of gas and water. Its technical regulations are the basis for safety and reliability in the German gas and water supply.

### DIN-DVGW-Test Symbol

Only lubricants which have been tested by neutral testing laboratories (e.g. DVGW-Research Centre in Karlsruhe) according to DIN EN 377 or DIN 3536 and which have been approved by the DIN-DVGW test symbol are allowed to be used in gas appliances and valves.



								Approvals					
Flushing valve	Pressure reducer	O-rings, gaskets	Glands	Gas appliances and controlling devices	Oxygen machine parts	Oxygen pressure reducers and valves	Assembly and wind-up devices	DIN-DVGW-control mark	BAM-test »oxy-gen«	NSF-standard 61	Guideline (KTW)	WRAS (WRC)	ACS
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# Clear benefits for high expectations

**BECHEM special lubricants as construction elements for the fitting industry fulfil the following criteria according to their specific selection:**

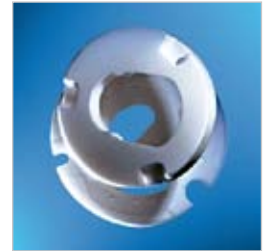
## **physiological-microbiological**

- no medium for micro-organisms (MDOD-test, oxygen consumption)
- smell, taste and foam formation of the drinking water are not affected
- the lubricant does not produce any toxic or pharmacologic effects (free of metal soaps)
- there is no migration of aromatic amines



## **chemical-physical**

- prevention of migrating lubricant components (chlorine consumption, TOC)
- compatibility with elastomers, such as NBR and EPDM
- no formation of stress crack of plastics of ABS, POM, PPE/PS, PSU, PBT, PA, PP and SAN
- no discoloration of non-ferrous metals
- prevention of tribo-chemical influences by additives
- prevention of corrosion, erosion and hard deposits on metal sealing surfaces (protective function)



## **mechanic-dynamic**

- reduction of frictional resistance during switching operations (reduction of torque)
- abrasable operation of frictional contacts of metal (no abrasive wear)
- maintenance of function by avoiding sticking of the rubber elastic sealing surfaces
- prevention of stick-slip at high breakaway torques and 500.000 load-cycle changes (valve tops)
- constant torque, i.e. uniform free movement over a wide temperature range (ceramic seal and control discs)
- high wash-out resistance at usual flow speeds of approximately 3 m/s
- emergency sealing of worn primary sealing systems (natural gas pipelines)
- improved secondary sealing effect of »softly sealed« valves (prevention of gas leakage rates)



## That'Special!

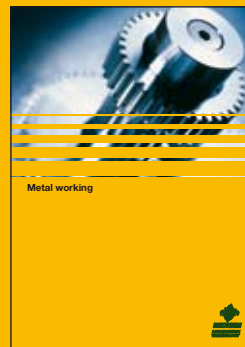
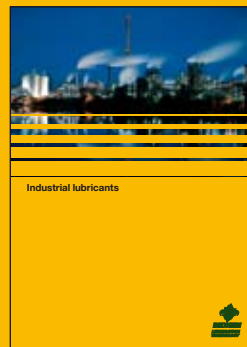
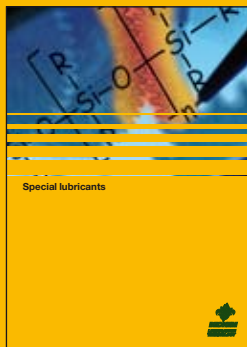
A tradition we are proud of since 1834. This is still today demonstrated by our trademark: the Rhus Flower. After permanent development, BECHEM is today a »Global Player«.

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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