



**hebro® chemie –**  
Premium coolants and metalworking fluids

Product group overview

## Coolants

### Basic concepts

In many sectors of industry, the use of coolants is an essential part of production, in particular in the metalworking industry. State-of-the-art high-performance machining processes are simply not feasible without using coolants. They cool and lubricate the work site while purging chips and other debris from the workpiece, which is a valuable contribution to the high standards of today's production processes.

But there is still the crucial question as to which lubricant is the right one. After all, every material to be machined makes its own demands on the lubricating coolant. And this is why there are different products to meet the needs of each individual machining process – depending on whether cooling, lubricating or rinsing action is required.

As an option, it is possible to select a product that contributes to corrosion protection.

The products are guaranteed to be not only environmentally compatible but also in line with health needs and feature good shelf lives.

Premium coolants from **hebro®chemie** meet all the currently applicable technical requirements for hazardous substances, they also fulfil the latest VDI guidelines. They are water miscible and will deal with every potential application and all requirements. We call them "premium" because every single one of them incorporates the combined knowledge and skill of our company, gathered from decades of experience and uncompromising customer focus.

Our customers know this. They know they will benefit from reliability and safety at a consistently high level. With every single **hebro®** product.

So it is hardly surprising that coolants made by **hebro®chemie** have been in use for many years in machines made by renowned manufacturers and are listed in numerous machine manuals. We can make these listings available on request.

## Facts worth knowing about **hebro**<sup>®</sup>lub coolants

Product advantages that count

**By using hebro<sup>®</sup>lub made by hebro<sup>®</sup>chemie, customers are benefiting from coolants that contain special emulsifiers to ensure their miscibility with water. They also contain corrosion protection substances, defoaming agents and lubricant additives formulated for the specific machining task.**

**Water miscible coolants made by hebro<sup>®</sup>chemie provide many benefits when used correctly:**

- Good cooling and rinsing effect and minimum cleaning effort required for tools, workpieces and chips
- Extended service lifetimes and reduced tool wear
- Longer service lifetime of the machine tool
- Excellent corrosion protection
- Reduced disposal and process costs (wages and downtimes)
- Low initial outlay for first filling and top-ups
- Excellent maintenance properties due to easy filtering
- Minimised carry-out losses – much reduced need for top-ups
- High occupational safety and better health protection by dispensing with chlorine additives. Amine- and/or boron-free products are available on request
- Reduced vapour and mist in use
- Pleasant odour and excellent skin compatibility
- Use of pure, environmentally friendly raw materials and special EP (extreme pressure) additives. One consequence of this is that standard sealing materials and machine paints (two-component paints) are, according to our experience, not subject to attack (in accordance with VDI guidelines 3035)  
Slideways and machine parts do not become tacky or stick together. The rinsing and dirt binding actions result in a much extended lifetime of the machine tools, tooling and workpieces.

## Simply change to hebro®lub

Increasing efficiency in three steps

**hebro®** coolants stand out because of the long service lives they generate. When you switch to our highly effective special chemicals, take note of the following points:

### Purge

Where installations are heavily or severely soiled, old emulsion must be completely removed from the emulsion tanks, piping etc. Chips, swarf, deposits and sludge have to be removed from all containers, conveyor belts, feed screws and other parts of the machinery.

### Clean to DGUV regulation 109-003

A number of methods are available for cleaning activities. Ideally, the most effective approach will depend on the type of machinery affected and the degree of soiling. The specialist staff at **hebro®chemie** will be pleased to advise you. Slightly soiled equipment can be effectively cleaned with biocide-free **hebro®pure** OK-M. Simply add 2 - 5% **hebro®pure** OK-M to the existing emulsion or grinding solution and run the recirculating pump for 12 to 24 hours. Then drain off the solution, rinse thoroughly and refill. If the installation is heavily or severely soiled, it is essential first to drain off all the old emulsion, as described above. Then add a fresh 1% emulsion of **hebro®pure** OK-M system cleaner to the empty system and, where necessary, a biocide from the **hebro®cid** series\* made up as a 5 - 10% dose and pump this cleaning emulsion through the system for as long as required. After draining the emulsion, rinse the system as described above. The installation can then be refilled.

### Use a new batch

As soon as the cleaning process has been completed, the clean system should be refilled with fresh emulsion. We recommend always using a coolant mixer as this ensures best possible emulsion. When refilling, ensure the correct concentration is achieved. When mixing the emulsion, do not use demineralised water. Ideal water hardness levels lie between 7 and 15° dH. This emulsion must never be mixed with other emulsions. After filling the system, reset the mixer to the optimum concentration required for topping-up.

\*Use biocides with great care. Before use, always read the label and product information.

## Trust, but verify.

### Monitoring and maintenance of **hebro**<sup>®</sup>lub coolants

To ensure you get maximum usage from your **hebro**<sup>®</sup> coolants, we strongly recommend compliance with the in-process testing and maintenance intervals, by applying these measures:

#### Concentration measurement

- Regular measurement of the emulsion on-site with a handheld refractometer. In a laboratory, acid cleavage is also possible.
- If the emulsion concentration is too high, dilute it by adding a less concentrated emulsion. Never just add pure water!

#### Measuring pH value

- Measure with litmus paper or pH indicators (6.5 – 10) or, alternatively, use a pH meter.

#### Microbiological analysis

- If necessary, use bio test tubes. Refer to the detailed instruction manual for handling and evaluation.

#### Nitrite & nitrate measurement

- Refer to the detailed instruction manual for handling indicator strips and evaluating the results

#### Remedial action

- Maintenance and care products such as biocides\*, corrosion inhibitor solutions and water hardeners should only be used after accurate analysis and investigation of the causes. Oil floating on the surface (leakage) should be removed using an oil skimmer.

#### Ideal process coordination

- Requirements in industry and production environments tend to differ from one company or industry to another. As well as the right coolants, **hebro**<sup>®</sup>chemie provides expertly balanced maintenance and care products and further additives:
  - **hebro**<sup>®</sup>cid\* preservative
  - hebro<sup>®</sup>add to prevent cutting fluid emulsions foaming in soft-water regions
  - **hebro**<sup>®</sup>protect as corrosion inhibitor for steel
  - **hebro**<sup>®</sup>pure\* series as a system cleaner
  - **hebro**<sup>®</sup> oils for machine base slideways, hydraulic systems, gearboxes, spindles and associated applications
  - Additional accessories:  
coolant mixers, handheld refractometers, pH meters, oil skimmers, bio test tubes, pH diagnostic dipsticks, nitrite indicator strips etc.

## Our services – more safety for you

### After-sales support

Both the authorities and German Occupational Accident Insurance Associations may require users to document the technical state of their coolant emulsion.

**hebro®chemie** provides a comprehensive service pack that makes this chore a simple matter.

#### Laboratory service

- Regular inspection of coolants in our state-of-the-art laboratory
- Measurement of emulsion concentration, nitrite and pH values and other customer-specific readings
- Drawing up a laboratory report and analysis of the condition of the emulsion  
This laboratory report can, if requested, also contain details of these points:
  - corrosion (chips/filter, test to DIN 51360/2)
  - conductivity
  - water hardness
  - odour
  - foaming
  - microbial problems caused by bacteria, yeasts and fungi
  - copper content
  - ...

#### TMS Lubricants

- Relevant limit values are defined according to TRGS 611 and DGUV Regulation 109-003. In the event the customer has problems staying within the prescribed limit values, we can help with the choice of adjustment measures to be applied and with their implementation.

#### Action times

- Continual checks can result in much increased action times for the cutting fluids - they can even be doubled. The result is reduced process costs and less contamination in the environment.

## Please contact us

We always look forward to new challenges



Would you like to learn more about the ecological and economic advantages of **hebro**<sup>®</sup>chemie's product range and, in particular, get to know the paint detackification products better?

Wherever you and your company are located, we can be with you within a short time.

Our permanent locations in the German-speaking countries and our many sales staff and partners in other locations enable us to maintain a close customer relationship with you and to accompany you in your activities.

We focus on fast response times for enquiries, orders and appointments as well as on high delivery dependability and flexibility.

You benefit both from our wide range of products and services and from our high standards of application expertise and close cooperation with our business partners.



Further information is available from these sources:

- on-site advisory visits by our field sales staff
- specific, technically-orientated product literature
- our website: [www.hebro-chemie.de](http://www.hebro-chemie.de)
- via our telephone consulting service on +49 2166 6009-133



hebro® chemie supplies premium quality in four product groups.

■ **Coagulants and water treatments**

■ **Coolants and metalworking fluids**

■ **Cleaning and surface care products**

■ **Maintenance and repair products**

**hebro®lub series**

State-of-the-art, universally applicable, water-miscible high-performance coolants

**hebro®grind series**

Fully synthetic, water miscible grinding coolant

**hebro®pure series**

System cleaners for all machine tools

**hebro®cid\***

Disinfectants for coolants in an aqueous solution

**hebro®base oils**

High-performance oils for various applications  
(cutting oils, machine base slideways, gearboxes, hydraulic systems, spindles and many others)

More products and aids for metalworking on request.

\*Use biocides with great care. Before use, always read the label and product information.

If you have any queries, just ask us:

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