

# Basics of the **Blasocut** Bio-Concept

“ **Water-miscible metalworking fluids based on the environmental primary bacteria principle have been Blaser Swisslube’s strength for 40 years. ”**

Blaser Swisslube



[www.blaser.com](http://www.blaser.com)

Our customer service answers FAQ about the unique Blasocut Bio-Concept:

- **What is the Blasocut Bio-Concept?**

**Water-miscible Blasocut emulsions stay biologically stable inherently, without needing any bactericides – a concept we introduced 40 years ago.**

What makes the Blasocut Bio-Concept so special is its sophisticated chemical composition. The harmless environmental primary bacteria commonly found in drinking water are deliberately fostered to keep Blasocut emulsions stable. Mixing the emulsion concentrate with water propagates a natural biological equilibrium. By incorporating the primary bacteria, the Blasocut system uses a well-proven law of nature to eliminate the use of tankside addition of allergenic bactericides.

- **How does the Blasocut Bio-Concept work?**

These naturally omnipresent primary bacteria build up a stable biotope where undesirable bacteria have no chance of propagation. Just like the bacterial flora in our intestinal tract or throat prevent pathogens from spreading, the primary bacteria in Blasocut emulsions also repress undesirable bacteria, pathogenic agents and fungi. Any dangerous bacteria infiltrating the metalworking fluid later on cannot possibly reproduce or spread.

- **How does this concept benefit Blasocut users?**

Apart from the outstanding technical performance of Blaser Swisslube metalworking fluids, one of our top priorities has always been their human and environmental compatibility. An important criterion, both economically and ecologically, is waste disposal. Blasocut emulsions based on the primary bacteria principle enables optimal process reliability and an extremely long service life. Since far less metalworking fluid changes are required, this greatly reduces overall waste disposal quantities.

- **Why do many conventional metalworking fluid emulsions need bactericide additives to keep undesirable bacteria at bay?**

Uncontrolled growth of unknown bacteria in conventionally formulated metalworking fluid emulsions can cause problems. Such bacteria can break down the emulsion ingredients, reduce its pH value, and cause bad odours. Fungal filaments can lead to pipe clogging as well. That is why bactericides have to be added to conventional metalworking fluid emulsions.

- **How is long-term sump life possible without adding bactericides?**

The special feature of the Blasocut formulation is that despite special growth of the primary bacteria, **the ingredients remain unchanged.** With this formulation, the bacteria naturally present in water prevent the ingredients from being attacked or decomposed. The pH value that is so important for the stability of an emulsion stays constant, and there is no change in odour.

- **How can that be proven?**

In our microbiology laboratory we analysed thousands of Blasocut emulsions for the presence of the primary bacteria and undesirable bacteria. We not only use standard procedures for this, but also specially developed test methods. The primary bacteria is always dominating. These findings, from test samples taken worldwide, have not changed over the years. Studies by Blaser and by independent experts have also proven the effectiveness of our Bio-Concept with the primary bacteria.

- **Which studies do you mean?**

A research team at Heidelberg University Institute for Hygiene recently analysed metalworking fluids from various manufacturers to find out which bacteria actually occur in metalworking fluids. The primary bacteria is an effective protection against attack by undesirable microorganisms and fungi. Prof. Dr. Sonntag of the Hygiene Institute confirmed this protective effect of primary bacteria in his scientific study.\*

- **Does Blasocut concentrate already contain this primary bacteria in the drum, or how do they get into the system otherwise?**

No, Blasocut concentrate contains no primary bacteria. They automatically enter when it is mixed with water to form an emulsion. Furthermore, the basic biological makeup including the primary bacteria already exists in every newly filled machine, depending in all cases however on the quality and intensity of cleaning prior to refilling.

- **Does the Bio-Concept also work with rainwater, demineralised or softened water?**

As a matter of principle yes, it works always and everywhere. Of course water of good microbiological quality will have a positive impact on emulsion stability. Especially water with high microbiological contamination may lead to an imbalance in the emulsion. However, this occurs rarely. **The Bio-Concept is robust which is why the primary bacteria always grow in the desired manner.** Even if used with sterile water, the primary bacteria will be detected sooner or later. It is important to note that the primary bacteria is not delivered with the metalworking fluid concentrate.

\* A report on this study is available from us on request

- **Do primary bacteria grow limitless in Blasocut emulsions?**

No, thanks to its alkaline pH the emulsion may even stay with zero bacteria in the beginning. Subsequent bacterial growth is always the primary bacteria growth. Bacterial growth plateaus at a defined level. With recent products this level is lower than in traditional Blasocut emulsions. In all products bacteria counts will remain relatively stable after an initial growth phase.

- **Do primary bacteria cause any bad odours?**

No. When regularly circulated in use, Blasocut emulsion develops no bad odours due to the primary bacteria. Bad odours are caused by completely different bacteria, mainly present in accumulated sediments and when the sump is covered with tramp oil layers.

- **What problems arise when metalworking fluid emulsions have to be dosed with bactericides?**

The biggest problem is incorrect dosing. Too much bactericide irritates the eyes and skin, while too little bactericide lets the surviving bacteria multiply phenomenally. The correct dosing of several individually filled machines is almost impossible on a sustainable basis. Furthermore, the bacteria may become resistant to the bactericide used. Another problem arising is that bactericide additives are classified as hazardous and have to be correctly handled and stored accordingly.

**Blasocut emulsions need no tankside addition of bactericides. Users therefore have practically no problem with skin irritation. For many of our customers the excellent skin compatibility of Blasocut emulsions is an important reason for choosing them. Moreover, there are no storage and dosing complications.**

- **But you also research and develop other metalworking fluids that are not formulated according to your Bio-Concept?**

Yes, as long as metalworking fluids are essential for the production of different goods, we go on with the development of adequate metalworking fluid. We are proud to play an active role in shaping the future.

- **Contact for more information on the Blasocut Bio-Concept:**

customer-service@blaser.com