

Bactericide-free metal cutting fluid from Henkel

## Cutting fluid problem solved

By developing a completely new generation of bactericide-free cutting fluids, Henkel has succeeded in banishing the drawback of emulsions splitting in use and the related bad odor nuisance, thus providing a long-awaited answer to a major problem associated with water-miscible metalworking fluids. The new emulsions of the Multan brand have proved themselves in industrial practice.

In demanding metalworking applications, nothing goes without coolant fluids. These “liquid tools” are essential when it comes to exploiting the full potential of modern high-performance machine tools. At the same time, users everywhere are increasingly clamoring for advanced coolant fluid concepts with enhanced manufacturing shop performance. Bacterial contamination with its well-known, unpleasant side-effects leading to emulsion splitting, is one factor that has been singled out repeatedly as a major cost driver.

### Unwanted microorganisms

Even in advanced technology machining centers a strong build-up of odor may be experienced when the machines had been idle for a long time. The reason for these unpleasant odors can be bacterial contamination of the metal cutting emulsion. This is a natural biological process. However, once the bacteria have multiplied to a certain level, the emulsion can split and become unusable. There have been two ways of avoiding such problems in the past. The first option is to use conventional, bactericide-free metalworking fluids where bacterial growth is initially tolerated up to a certain concentration, then combated by adding bactericides. The disadvantage here is that the dead microorganisms act as excellent nutrients for the next generation of bacteria, so the process has to be repeated at ever shorter intervals. The second option is to use fluids that contain bactericides, which permanently suppress bacterial growth.

## Focus on safety, health and environment

In both cases, the use of bactericides has to be viewed critically. Exposure to bacteria or bactericides represents a potential health hazard for employees, who may develop skin irritations or increased sensitization after contact with them. Frequent changing of emulsions that have split is not only very costly but also puts an additional burden on the environment. Henkel offers a sustainable solution to this cutting fluid problem with the patented emulsifier technology of its Multan 71-2 products. After intensive development work, a microbiologically robust cutting fluid was formulated that not only contains no bactericides (such as formaldehyde splitters), but does not need any later addition of bactericides to keep it stable either. The new product is suitable for many different kinds of machining from roughing to grinding.

Photo material is available at <http://www.henkel.com/press>

Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Cosmetics/Toiletries and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions both in the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 48,000 people and reported sales of 15,092 million euros and adjusted operating profit of 1,862 million euros in fiscal 2010. Henkel's preferred shares are listed in the German stock index DAX and the company ranks among the Fortune Global 500.

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The following images are available:



The switch to the new emulsifier technology of Multan 71-2 eliminates the problem of bacterial growth in metal-cutting fluids, without any need for later addition of bactericides.