



Use of Biocides for Metalworking Fluids

UEIL is the European association representing the lubricants manufacturers industry. As lubricant manufacturers, our members are devoted to ensuring all products are safe for both production and intended use. In the light of stricter rules regarding biocidal products and chemicals in general, UEIL would like to define its position regarding biocide use in metalworking fluids (MWF).

Although there are chemical hazards associated with the use of biocidal products to control microbial activity, UEIL's position is that these can be effectively managed so that the benefits to worker safety, MWF performance, cost and sustainability outweigh the risks of the use of these highly regulated products.

1. Biocides are key ingredients to control microbial growth

Use of biocidal products in MWFs at recommended low doses can prevent or at least minimise microbial growth. Water-based MWF sumps may need to be cleaned out and treated on a regular basis, as part of a regular coolant management programme, in order to control microbial contamination. Uncontrolled growth of microbes significantly increases the health risk to workers of lung diseases, skin problems, or simply difficult working conditions (unpleasant odours). It can also adversely affect the performance of the MWF and can cause poor machining performance, blockages, degradation of the fluid and machine breakdown.

Experience has shown that if microbial growth is not controlled, the emulsion could degrade and may need to be discarded regularly. Reduced machining efficiency, breakdown of parts and more frequent changes to fluids all lead to increase in raw material use, energy use in manufacturing, transport and disposal and increase in potentially hazardous waste. All of those contribute to increased carbon footprint. Extending the service life and durability of products, conservation of resources and energy, reduction of greenhouse gas emissions and minimisation of waste are all important ways to improve the sustainability profile of the industry.

Biocides protect the fluid and the production process, reduce environmental impacts and protect the health of workers by minimising their exposure to harmful microbes.

Non-biocidal (physical and chemical) methods to control microbial growth in MWFs are currently not universally effective and are under development. As such, biocides continue to play a critical role in the control of microbes, and so in the safe and effective function of MWF. Regardless of the method of control, it is important that end users regularly test MWFs for microbial contamination to ensure protection of the workers and the processes, to maintain the performance of the MWF and to maintain the equipment.



2. Biocides are among the most controlled substances in the European Union

The EU legislation regarding chemicals is among the strongest in the world. The REACH regulation controls chemicals sold at significant volumes in general via risk assessment of uses in registrations and authorisation and restriction of specific substances of concern. Good quality hazard information is made available via the classification inventory and harmonised classification scheme mandated by the Classification, Labelling and Packaging Regulation (CLP). Mandatory safety data sheets (SDS) and product labelling ensures effective communication of hazards to industrial and professional users.

Biocides are further regulated under the Biocidal Products Regulation (BPR). With their intended use, biocides are inherently hazardous. The BPR describes the safe use of biocides for defined applications, to ensure a high level of protection of both human and animal health and the environment specifically for these products in their various applications.

During the past decade, the European Chemicals Agency (ECHA) has constantly reviewed scientific data available for biocide active substances used in the EU. For many substances, ECHA has concluded that the hazard classification of these actives should be more severe. In this context, it is important to differentiate the terms 'hazard' and 'risk': a hazard is the inherent properties of a substance whereas the risk also considers the exposure and its handling. Safe use of hazardous chemicals is possible if appropriate risk management measures are in place, so that exposure is limited to levels where the hazards are no longer considered likely to result in harm.

In the case of biocides used to treat MWF tanks, the exposure to workers is controlled and very limited. When using any chemical, workers must follow safety procedures, including minimising contact, in particular when handling biocides. When handling these materials, workers should always follow the advice from the suppliers as indicated on the label, product information and SDS, such as wearing appropriate personal protective equipment (PPE) and effective ventilation. UEIL members are dedicated to ensuring biocides are always used safely.

All biocidal active ingredients have been assessed by ECHA's Biocidal Products Committee (BPC) or are waiting review as part of the assessment process for their intended application (Product Types 6 & 13 for lubricants and MWF respectively). These substances have been tested thoroughly and are highly regulated in the European market.

About UEIL

UEIL (the Union of the European Lubricants Industry) represents the interests of the lubricants industry in Europe, with a special focus on SMEs and independent companies that produce lubricants and metal processing fluids essential for the automotive and industrial sectors.

Through its thirty-five members, UEIL covers the whole lubricants' value chain, from manufacturing and distribution to recycling, and represents over 450 companies and 100,000 employees.