



Biocides: Stay future proof with these alternatives

To ensure that a water-miscible coolant performs as effectively as possible, a number of parameters must be correct. One of the deciding factors is the bacterial load. Biocides are indispensable when it comes to ensuring that bacteria, yeasts and fungi present in the coolant do not gain the upper hand. In this latest newsletter, we will discuss which biocides are available and what effect they have, as well as which high-performance Siebert coolants you can offer your customers as a sustainable alternative to these biocides.

What are biocides?

Biocides are preservatives that reduce and restrict the growth of bacteria, germs, yeasts and fungi found in water-miscible

coolants. This keeps coolants stable. However, for the emulsion to deliver the highest level of performance, the biocide must be dosed with precision: If the dose is too low, the growth of germs will not be restricted fully. If the dose is too high, employees who come into contact with the emulsion may become contaminated, which may result in skin irritation or allergic reactions.

Complete list of approved substances

Since the introduction of the European Biocidal Products Regulation in 2012, biocides have been tested extensively for the potential risk they pose to people and the environment. The aim is only to approve substances that provide the best possible protection against harmful organisms

(pests or bacteria) while also offering a high level of protection in terms of health and the environment. The regulation classifies fluids used for metal working and coolants under product type 13. This complete list contains the names, identification numbers and types of application for biocides approved in Europe so that they can be traced at any time.

According to the current version of the regulation, 27 biocides are permitted within the coolant group. As the cost of registering a substance is high, it is unlikely that any other substances will be added in the near future. On the other hand, the substances in the list are tested on a regular basis to account for scientific and technological progress.

Different biocide groups

The following groups of products are approved under the Biocidal Products Regulation and are well suited for coolant applications:

Formaldehyde depot substances

Of the total 27 approved biocides, nine are formaldehyde depot substances. These are an important biocide group for coolants and should not be confused with formaldehyde, which is classed as carcinogenic.

- Ensure the stability of the coolant
- Have a considerable long-term effect

Isothiazolinones

With six substances on the list, isothiazolinones form another important biocide group.

- Methylchloroisothiazolinone and methylisothiazolinone are mainly used for preservation and have a fast-acting but short-term effect
- Benzisothiazolinone and methylbenzisothiazolinone are stable in coolant media and therefore have a greater long-term effect
- Butylbenzisothiazolinone and octylisothiazolinone are more effective fungicides

The advantage that these substances have over formaldehyde depot substances is that they do not create odours.

Other substances

In addition to the formaldehyde depot substances and isothiazolinones, there is another group of biocides that includes phenols, phenol derivatives, alcohols and fungicides.

- Orthophenylphenols (and sodium salt) are particularly effective as fungicides and are also used for preserving the peels of tropical fruit
- Phenoxyethanol has a bacteriostatic effect and must be used in higher concentrations
- Natripyrin and iodopropynyl butylcarbamate have a strong fungicidal effect

Alternative substances for the future

Formaldehyde depot substances play a particularly significant role in current discussions regarding biocides. Even though they do not pose the potential risks of formaldehyde (which is classed as carcinogenic), there are efforts in some countries to label formaldehyde depots in the same category as formaldehyde in the future. This emphasises the importance of utilising water-miscible coolants as a long-term alternative to biocides.

Stay on the safe side with Siebert

By using Siebert products, your customers can stay on the safe side — both now and in the future. Siebert coolants only contain biocides that are approved under the EU Biocidal Products Regulation. The biocides used in our coolants are dosed with precision and actively help to inhibit germs while offering the best possible protection for your health. As an innovation leader, Siebert's portfolio already includes coolants that are free from formaldehyde depot substances, and instead use alternative, future-proof biocides such as isothiazolinones, phenols and alcohols. Our coolants also match formaldehyde depot substances in terms of long-term stability and skin compatibility.

We are there for you

Do you have further questions regarding biocides and alternative materials? Our Siebert experts will be happy to help.

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