

Formaldehyde in cutting fluids.

What you need to know.

On January 2, 2025, the U.S. Environmental Protection Agency (EPA) released the final risk evaluation for formaldehyde conducted under the Toxic Substances Control Act (TSCA). EPA has determined that formaldehyde presents an unreasonable risk of injury to human health, specifically to workers and consumers, under its conditions of use (COUs).

EPA's risk evaluation focused on formaldehyde sources involved in the manufacturing, processing, distribution in commerce, use, and disposal of formaldehyde and formaldehyde-containing products and articles that are subject to TSCA.

Workers who are in workplaces where formaldehyde is used are at the most risk from formaldehyde exposure, particularly if workers are not wearing personal protective equipment.

Workers may be exposed to formaldehyde in air during manufacturing, processing, or use of formaldehyde and products and articles containing formaldehyde. Workers can also be exposed to formaldehyde by making skin contact with formaldehyde-containing materials. Most of the risk to workers is because of acute inhalation and dermal exposures. Cancer risk to workers under many conditions of use also supports the risk determination.

Next steps

EPA will begin the risk management process to address the unreasonable risk presented by formaldehyde. EPA will propose a rule under TSCA section 6 to protect workers and consumers from the identified risks.

Why it matters

Water soluble metalworking fluids are used in all parts of the world and are subject to contamination by bacteria and fungi on a daily basis. The control and monitoring of microbial growth are essential components of a good fluid maintenance programs. The addition of preservatives to water soluble metalworking fluids contributes significantly in maintaining the quality of these fluids. Additionally, the use of preservatives protects these fluids against the growth of potentially harmful microbes that could cause health problems in workers. **For efficacy and cost effectiveness, a large proportion of bactericides (which are preservatives that specifically control the growth of bacteria) on the market today act by releasing small amounts of formaldehyde under specific conditions.**

It must be emphasized that formaldehyde itself is not added to metalworking fluids; biocides that rely on the action of formaldehyde use the substance bound strongly to other molecules and it is only present at very low concentrations.

What you can do

To keep in line with safety advice and prepare for future legislation and HSE requirements, many shops are removing formaldehyde releasing agents from their metalworking processes.

Steps Castrol has taken to remove FRAs from our lubricants

In December 2018, the European Union reclassified several formaldehyde-releasing agents (FRAs) such as methylenedimorpholine (MBM), oxazolidine (MBO) and hydroxypropylamine (HPT) as category 1B carcinogens. The new legislation impacted a number of Castrol's metalworking and forming fluids.

In response to the new legislation, Castrol began a mitigation plan for nearly all products containing FRAs.

- The majority of products impacted had immediately available alternatives, which were FRA free, and compliant with the legislation. This includes our latest cutting-edge XBB technology, which is free from boron and biocides.
- For some products, Castrol initiated a technology modification program, which changed the formulation to be FRA free, and compliant with the legislation.

In anticipating the possibility of future similar legislation in the US, Castrol commenced these same priorities for products manufactured and sold in the US.

Talk to the experts

If you need help finding an alternative to the cutting fluid that you are currently using call us – 888-CASTROL.