

# Information for Employers and Duty Holders

## Metalworking Fluids (MWF)

Feb 2025

### HSE Expectations

The HSE often inspect workplaces using metalworking fluids (MWF). Exposure to MWF mist can cause occupational asthma, hypersensitivity pneumonitis, and lung inflammation.

Skin contact can lead to dermatitis, particularly from biocides, tramp oil, metal contaminants, and degraded MWF components.

There is no safe exposure level, so exposures must be reduced as low as reasonably practicable (ALARP). Engineering controls should prioritise LEV, machine enclosures, optimised fluid delivery, and process modifications to minimise mist formation. Fluid quality must also be managed, as low pH, microbial contamination, and tramp oil accumulation can worsen exposure risks.

Health surveillance for respiratory and skin conditions is required where there is a reasonable likelihood of disease. Workers must receive training on hazards, control measures, machine operation, maintenance, fluid checks, reporting concerns, and hygiene best practices.

The latest UKLA *Good Practice Guide for Safe Handling and Disposal of MWF* (2023) provides further guidance on MWF management.

### Ensuring Compliance

Duty-holders must implement and maintain effective engineering controls, such as LEV, mist extraction, machine enclosures, and process modifications to reduce mist exposure. The use of compressed air should be avoided or controlled with extracted booths, reduced air pressure, and alternative methods (vacuum systems, spindle fans, absorbent materials, or low-pressure coolant guns).

For high-speed machining, control measures should include LEV, programmed enclosure time delays, and regular clearance testing. Smoke tests, dust lamps, and direct reading aerosol monitors (DRAMs) can be used to verify mist clearance times and assess enclosure effectiveness.

MWF maintenance should include routine checks on odour, appearance, pH, concentration, tramp oil levels, microbial growth, and biocide effectiveness. Dip slide testing should be carried out to monitor bacteria levels, reducing the risk of exposure to harmful microorganisms.

Occupational hygienists should conduct qualitative assessments to ensure control measures remain effective, and records of all checks should be kept to demonstrate compliance.

**An occupational hygienist can help to determine if you are compliant and protecting your staff adequately**