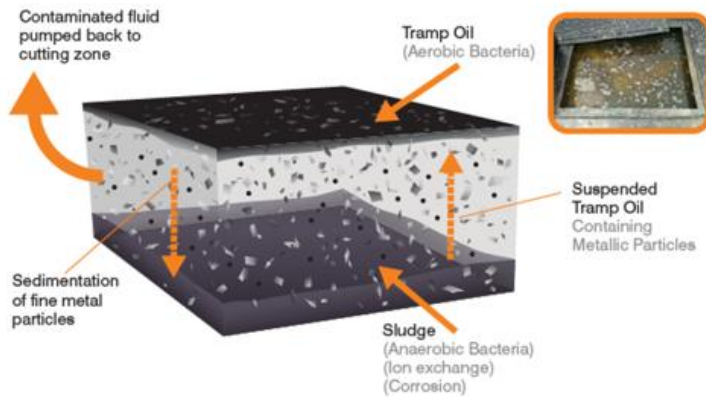


Improving Workplace Safety

Process Emissions

Metalworking Fluid Mist



Cross section of typical MWF sump.

CNC Machining creates mist emissions and contaminated MWF (neat and water mix) is a known risk to health

No matter how clean the MWF surface may look the fluid will be contaminated

- Bacteria, Fungi and Endotoxins
- Tramp Oil
- Particles of the material being cut

MWFs may be supplied as hazard label free but soon after going into service toxicity increases.

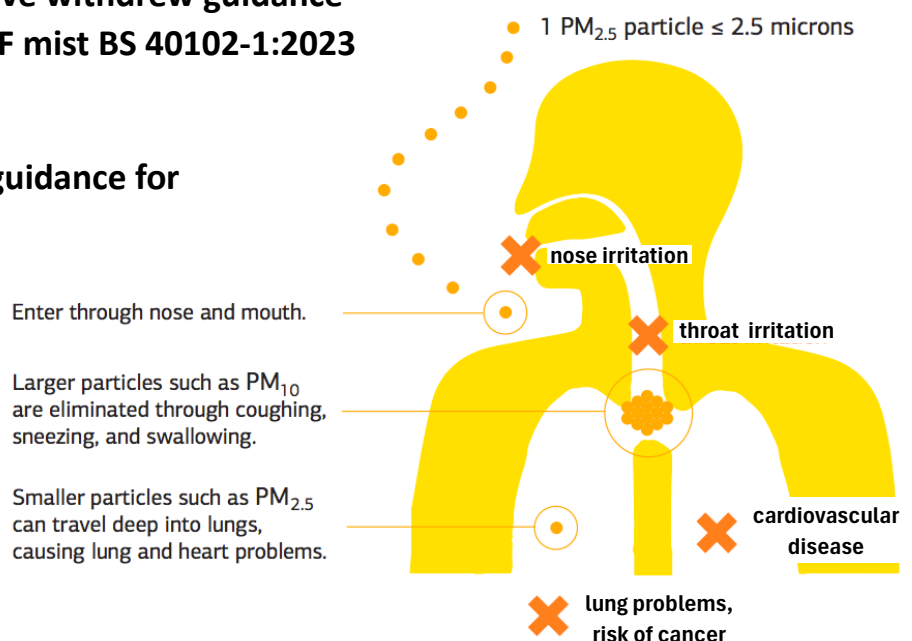
- Contamination of water mix MWFs with tramp oil, soluble metals and metal fines stimulates the growth of microorganisms contributing to MWF toxicity
- Sump side biocides added to MWFs to 'kill' micro-organisms increase toxicity levels
- Aerosolization (misting) of MWFs from machining or use of compressed air to clean increases the risk for inhalation, even with LEV installed

The World Health Organisation has set guideline values for outdoor air quality for exposure to 10μ and 2.5μ particulates. MWF mists contain a wide distribution of particulate sizes and although The Health & Safety Executive withdrew guidance values for assessing exposure to MWF mist BS 40102-1:2023 is aligned to WHO guidelines

BS40102 provides indoor air quality guidance for non-domestic buildings

Air quality guidance values aim to minimise health risks from process emissions

Health risks include respiratory diseases, heart and cardiovascular disease, stroke, and some cancers



Click to learn how [HEXmon SENSOR](https://fluid-ms.com) monitoring and reporting platform helps 'safety first' companies understand the relative change in particulate levels from manufacturing processes