

Metalworking fluid exposure and consequences on skin health in a metal machining factory: review article

ABSTRACT

Metalworking fluids (MWFs) are a variety of substances can be used during machining of metals such as cutting, turning, grinding, milling and drilling. National Institute of Occupational Safety and Health (NIOSH) in United States of America has stated that MWFs available in different forms such as straight oil (neat oil), soluble oil (emulsifiable oil), semisynthetic MWFs, and synthetic MWFs and during the machining processes worker can be exposed to MWFs through skin contact and inhalation. MWFs in machining factory allow significant bacterial growth in the fluids and aerosols which cause dermatological and respiratory adverse health effects among exposed workers. skin diseases that MWF exposure can cause various morphology of skin disorders such as skin scaling or dryness. Semi-quantitative dermal exposure assessment methods (DREAM) in both occupational and epidemiological survey. The prevention of the health effects of MWF on skin systems would probably by enhancing the awareness of the workers towards the health effects of MWF and the appropriate safety methods need to apply regularly all along their working time.

Keyword: Metalworking fluid; DREAM; Metal machining.