

Controlling Microbial Contamination in Metal Working Fluids

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abstract

Mounting concerns over operational and waste management costs, as well as the quality and safety of the work environment have provided increased impetus for both formulators and end-users to strive to improve coolant life. There are a number of alternative approaches to achieving this objective. In this paper, the concepts of bioresistance and biostatic are defined and compared. A discussion of both chemical and non-chemical treatment technologies follows. Non-chemical technologies considered include pasteurization, irradiation, sonication, and filtration. Coolant formulation strategies and biocide use are explored as illustrative chemical technologies. The discussion of biocide use includes remarks on alternative dosing tactics and biocide selection criteria.

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