



DAILY CONCENTRATION CONTROL

One of the most important aspects of maintaining central systems and individual sumps is the daily addition of metalworking fluid concentrate. Metalworking fluids are blends of several chemical components mixed with water. Several of these components deplete naturally over time. Two of the most important elements of a metalworking fluid are the rust preventive package and the biocide or preservative. In order to maintain these components at the proper concentration, concentrate must be added regularly to avoid rust problems and bacteria odor complaints, and to ensure consistent fluid performance.

Over time, dirt, water hardness and oil may build up in a fluid system. These "particles" can give a falsely high reading on a refractometer. A refractometer is only completely accurate on fresh fluid charges and systems with very good filtration. A refractometer is best suited for new charges, systems with good filtration and for checking whether a fluid is too rich or too lean in concentration.

An individual sump may require an ounce or two of concentrate, whereas a central system may need several gallons or more. The exact amount is dependent upon the size of the system, volume of the fluid carried out on parts, as well as factors such as dirt load and machining operation. Your Castrol Sales Engineer or distributor salesperson can help determine the proper amount of daily concentrate required. Properly maintaining a system in this manner, along with other recommended preventive maintenance measures, increases fluid life, thereby reducing fluid disposal costs.

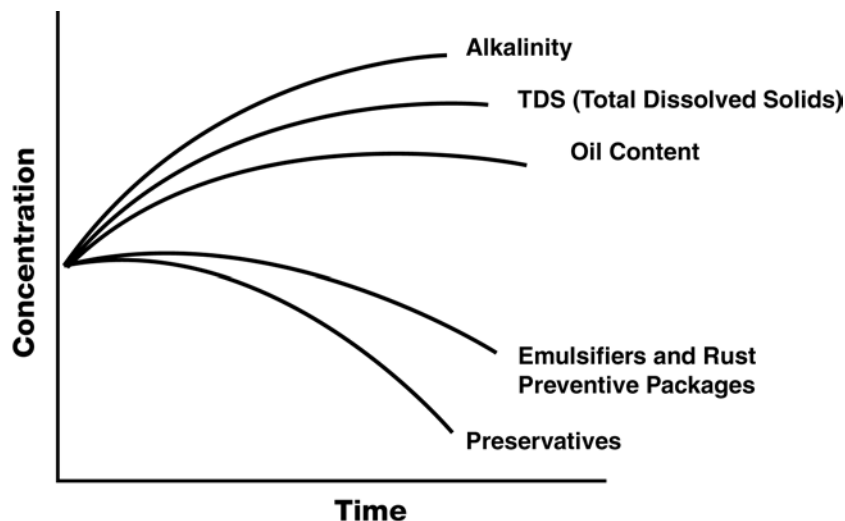


Figure 1: Fluid Changes Over Time



Consequence of Improper Concentration Control	
Low Concentration	High Concentration
<ul style="list-style-type: none">• Promotes bacterial growth• Reduces rust protection• Shortens fluid life• Reduces tool life	<ul style="list-style-type: none">• Wastes product• Can cause irritation• Can cause staining (primarily nonferrous materials)• Residue buildup• Reduces cooling (smoking and burning)• Foam

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Page 2 of 2