HACH KIT TITRATIONS FOR METALWORKING FLUIDS

BACKGROUND

The Hach kit, commonly used to determine the concentration of alkaline cleaners, can be used to conduct on-site alkalinity titrations for synthetic and a limited number of semi-synthetic fluids. The Hach kit should be used as a supplement to the refractometer, since both tests are limited in their accuracy of measuring used metalworking fluids.

The refractometer is limited because its reading can be influenced by any dissolved or dispersed contaminants such as cleaners, additives, oil, dirt or water hardness. These tend to indicate a higher reading, making the concentration appear richer than it actually is. The alkalinity titration (Hach kit) method will be influenced by any chemical contamination. A falsely low reading may be seen if the contaminant is acidic; a falsely high reading may be the result of an alkaline contaminant. The Hack kit used here is Cat # 23145-00, with 0.500 N Sulfuric Acid.

The refractometer and Hach kit values in Product data sheets carried out by Castrol Industrial Americas are prepared using deionized water. It is recommended that you make standard solutions in the customer's water for use as a reference; the values for alkalinity may vary +/- 2 drops and the refractometer values +/- 0.5° Brix. Test procedure is given in the Hach kit. If you find a large discrepancy between alkalinity and refractometer readings of a used fluid, a Laboratory Service Request (LSR) should be submitted for a more thorough analysis.

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