



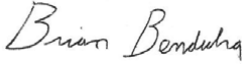
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Evaluation of Hydrosol 8325 Metal Working Coolant

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Purpose: To determine the concentration of M-250 in the Hydrosol 8325 coolant. The coolant is normally used at a concentration of 10-12% in water.

Samples Received: Hydrosol 8325 coolant (~1 liter)

Method: Reserve Alkalinity
Refractometer

Materials: M-250
0.1N HCl
pH meter
250ml beaker
Reichert Hand Refractometer (model 10440)

Procedure: The following procedure was followed:
-Prepare the solutions to be tested.
-Pipette 10ml of prepared solution to a 250ml beaker, and add 50ml of DI water.
-Add and record the amount of 0.1N HCl until the pH reaches 5.5

Results: The following results were found:

Sample	ml of 0.1N HCl to reach pH of 5.5
10ml of 10% Hydrosol + 50ml DI water	20.20ml
10ml of 10% Hydrosol with 0.25% M-250 + 50ml DI water	20.35ml
10ml of 10% Hydrosol with 0.5% M-250 + 50ml DI water	20.50ml
10ml of 10% Hydrosol with 0.75% M-250 + 50ml DI water	20.65ml
10ml of 10% Hydrosol with 1% M-250 + 50ml DI water	20.80ml

Sample	refractometer reading
10% Hydrosol in DI water (control)	5.00
10% Hydrosol in with 0.25% M-250	5.25
10% Hydrosol with 0.5% M-250	5.50
10% Hydrosol with 0.75% M-250	5.75
10% Hydrosol with 1% M-250	6.00

Interpretations: The concentration of M-250 in the Hydrosol 8325 Coolant can be determined by either a reserve alkalinity titration method (as described above), or with a refractometer. The easiest way to check concentration is to use hand refractometer and keep the readings close to 6.00.