Ford Motor Company

FORD LABORATORY TEST METHOD EU-AT 050-06

CONCENTRATE CONTENT OF SOLUBLE OIL EMULSION

Application

This method is used to determine the concentrate content of used soluble oil emulsions.

Apparatus and Chemicals Required

Shaking Cylinder
100 mL with glass stopper.

Pipette 10 mL

Graduated Cylinder
25 mL

Burette Automatic

Germocid Solution
1 % in distilled water.

Source: BASF, 67 Ludwigshafen, Germany or Bush & Bach, Segner Bayley Limited, 175 Tottenham Court Road, London, Great Britain

Indicator Solution
Chemicals for 5 liter solution:

66.25 g Sodium Carbonate, waterfree
50.00 g Ammonium Chloride
0.40 g Bromophenol Blue
2.50 g Fluorescein

Carbon Tetrachloride c.p.

Distilled Water

Date	Action	Revisions	
2000 08 22	Revised	Editorial – no technical change	A. Cockman
2000 05 18		Editorial – no technical change	A. Cockman
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Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

Factor Determination

Prepare a 3 % emulsion using plant water. Pipette 10 mL of the emulsion into the 100 mL shaking cylinder and add distilled water to make up to 50 mL followed by 10 mL indicator solution and 10 mL carbon tetrachloride.

Shake three times and allow to deposit. The lower layer is colorless.

Add 1 mL of 1 % germocid solution at a time, shake and observe, continue until the two layers are the same color blue.

Repeat the titration by adding the volume of 1 % germocid solution previously determined less 3 mL. Shake and observe the lower layer. If blue or slightly blue, repeat the titration using 3 mL less germocid solution. Titration should only be continued if the lower layer is colorless.

To ensure reproducibility, the titration should be repeated at least once.

Calculate the factor of the soluble oil under test as follows:

$$F = \frac{C_1}{V_1}$$

F = Factor of the soluble oil under test
C_1 = Concentration of the adjusted emulsion in %
V_1 = Volume of germocid solution in mL

Concentration Determination of Used Soluble Oil Emulsions

Pipette 10 mL of the plant emulsion under test into the 100 mL shaking cylinder and add distilled water to make up to 50 mL followed by 10 mL indicator solution and 10 mL carbon tetrachloride.

Shake three times and allow to settle.

The lower layer is colorless.

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