ASSOCIATION CONNECTING
ELECTRONICS INDUSTRIES®

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Number	
2.3.30	
Subject	
Solvent pH Determination in Anhydrous Fluorocarbons Solvents	
Date	Revision
11/81	**A**
Originating Task Group	
N/A	

IPC-TM-650
TEST METHODS MANUAL

1 Scope This test method is used to measure pH in anhydrous fluorocarbon azeotropes and blends in cleaning and defluxing equipment.

This method does not work in the presence of organic acid acceptors normally present with chlorinated solvents, namely 1,1,1-trichloroethane and trichloroethylene.

2 Applicable Documents None

3 Test Specimen

3.1 Approximately 25 ml samples of solvent are taken from the boiling sump and condensate rinse sump of the operating fluorocarbon vapor defluxer or degreaser and, for comparison purposes, from the virgin solvent supply.

4 Equipment/Apparatus

4.1 pH indicator sticks TM ''colorpHast''® cat. #9590 available from MCB Manufacturing Chemists Inc., 2909 Highland Ave., Cincinnati, OH 45212

4.2 Screw cap glass vials (50 ml, three or six required per test)

4.3 Graduated glass cylinders (50 ml, three required per test)

Caution: Plastic is sometimes attacked by solvents such as acetone, methylene chloride azeotropes.

5 Procedure

5.1 Transfer 25 ml of virgin solvent to a clean vial using a clean, dry graduated cylinder, insert a ''colorpHast''® plastic strip, and cap the vial.

5.2 Repeat 5.1, sampling the defluxer or degreaser boiling sump.

5.3 Repeat 5.1, sampling the condensate or rinse sumps.

5.4 Allow the test vials to stand 30 minutes.

5.5 Compare the colors on the test sticks with the ''colorpHast''® color key and record the matching pH value.

5.6 Discard the ''colorpHast''® indicator sticks and vials after emptying the solvent into the boiling sump.

5.7 Rinse the graduated cylinders with virgin solvent, empty into the boiling sump, and allow to dry for reuse.

5.8 With fluorocarbon/acetone and fluorocarbon/methylene chloride azeotropes or mixtures, which attack the indicator adhesive, repeat the above steps, but with two vials of each sample. Cut the bottom two color squares off three ''colorpHast''® sticks and discard the remainder of the stick. Put one square of each color in samples from 5.1, 5.2, and 5.3 sources and complete steps 5.4 through 5.7.

5.9 Interpretation of Results If pH is above 5.5, this is an acceptable condition. If pH is less than 5.5, the solvent is contaminated by an accumulation of activated flux residues, organic acids, or thermal degradation products of the solvent. This requires inspection to establish the need for cleaning of the equipment and for recovery of the solvent.