WGK 148

MONSANTO CHEMICAL COMPANY
W. G. KRUMMRICH PLANT LABORATORY

STANDARD ANALYTICAL METHOD

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1/6/61	1 OF 2	10,620
WRITTEN BY: DWJ	APPROVED BY: RFS	
ATTACHMENTS: WGK Method 10,100		

PRODUCT: Aroclors, Pyranols, Tri-Chlorobenzene and Tri-Tetrachlorobenzene Blends

TEST: Water

THIS FORM ☐ SUPERSEDES METHOD _____ ISSUED ON 3/9/53
☒ REVISES INSTRUCTIONS

SCOPE

This method is used to determine the water content in transformer and capacitor fluids and their components. The water is titrated with standardized Karl Fischer reagent to an electrometric "Dead Stop" endpoint.

EQUIPMENT AND REAGENTS

a. Refer to General Method No. 7, WGK Method No. 10,100 for necessary equipment and reagents.

SAFETY

Aroclors, Pyranols, Tri-Chlorobenzene and Tri-Tetrachlorobenzene blends are irritating to the skin. The vapors of the hot materials are irritating to the eyes and upper respiratory system. If accidental contact is made with the eyes, flush immediately with large quantities of water and get immediate medical attention. Exercise caution to avoid possible thermal burns through contact with hot equipment.

The solvents used in this determination are both toxic and flammable. Proper precautions should be exercised to keep them off the skin and away from sources of ignition. Karl Fischer reagent is toxic and can be absorbed through the skin. If it comes in contact with the skin, immediately wash the area with soap and water.

DETERMINATION

1. Determine the water content of the material according to General Method No. 7 with the following modifications:

   a. Place the solvents, in the proportions indicated below, into the titration flask:

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Material	Benzene	Methanol
Pyranol 1488	100 ml.	200 ml.
Pyranol 1467	100 ml.	200 ml.
Pyranol 1470	100 ml.	200 ml.
Pyranol 1481	100 ml.	200 ml.
Inerteen PPO	100 ml.	200 ml.
Tri-Tetrachlorobenzene Blends	100 ml.	200 ml.
All Aroclors	110 ml.	190 ml.

b. Weigh, to ± 0.05 g., by difference, on a beam balance a 100 (± 10) g. sample into the "blanked" solvent and allow the material in the flask to mix thoroughly.

CALCULATION

$$\% \text{ Water} = \frac{\text{ml. K. F. reagent} \times \text{K. F. factor} \times 100}{\text{sample weight}}$$

Report results to the nearest 0.0005%.

Duplicate results should agree within 0.0005% or the results must be rechecked.

DISCUSSION

No precision data has been compiled on this method but experience shows the results can be duplicated within ± 0.00025%.

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