

UNION CARBIDE CORPORATION

DETERMINATION OF HEATING LOSS AND/OR TOTAL SOLIDS	METHOD NUMBER WC-160-H
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1 PURPOSE This method describes a procedure for determining the heating loss and/or total solids of a vinyl resin. The drying time and temperature are specified in the Plastics	ISSUE	PAGE	OF
	2	1	2
	DATE October 28, 1960		

2 **EQUIPMENT**

- a) Oven, constant temperature laboratory type capable of being maintained at $\pm 1^\circ\text{C}$ of the specified test temperature. As a safety precaution, reduce the explosive hazard in the oven by metering into the lower part of the oven approximately 100 ml/minute of carbon dioxide or nitrogen.

3 **PRECAUTIONS**

- a) If the sample is a resin solution, or contains an appreciable quantity of hazardous volatiles, place the weighed sample on a steam bath until these volatiles have been evaporated.
- b) If the sample contains free vinyl acetate, or other materials subject to spontaneous reaction upon heating, add a few mg of copper acetate, or other suitable inhibitor, to the sample container before it is tared.

4 **PROCEDURE**

- a) Transfer 3 to 5 gm of the sample resin weighed to the nearest mg to a tared watch glass or weighing dish.
- b) Place the watch glass or dish in a constant temperature oven maintained at $\pm 1^\circ\text{C}$ of the specified test temperature and heat for the prescribed time.
- c) Remove the watch glass or dish from the oven and allow to cool to room temperature in a suitable desiccator.
- d) Weigh the watch glass or dish to the nearest 0.1 mg and record.

5 **CALCULATIONS**

a) Heating loss

$$\frac{\text{original weight-dry weight}}{\text{original weight}} \times 100 = \text{heating loss, \% by weight}$$

b) Total solids

$$\frac{\text{dry weight}}{\text{original weight}} \times 100 = \text{total solids, \% by weight}$$

6 REPORT

- a) Complete sample identification
- b) Analyst and date
- c) Test temperature and test time
- d) Heating loss, % by weight, or total solids, % by weight

7 REFERENCE D-4060-18

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