

T 504 cm-97

SUGGESTED METHOD – 1967
OFFICIAL STANDARD – 1974
OFFICIAL TEST METHOD – 1984
REVISED – 1989
CLASSICAL METHOD – 1997
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CAUTION:

This method may require the use, disposal, or both, of chemicals which may present serious health hazards to humans. Procedures for the handling of such substances are set forth on Material Safety Data Sheets which must be developed by all manufacturers and importers of potentially hazardous chemicals and maintained by all distributors of potentially hazardous chemicals. Prior to the use of this test method, the user should determine whether any of the chemicals to be used are potentially hazardous and, if so, must follow strictly the procedures specified by both the manufacturer, as well as local, state, and federal authorities for safe use and disposal of these chemicals.

Glue in paper (qualitative and quantitative determination)

1. Scope and significance

1.1 This method deals with the qualitative and quantitative determination of animal glue in paper in quantities that are used for sizing high grade papers (*I*). It is applicable to glue hardened with formaldehyde, alum, or amino-formaldehyde resins, and to photographic papers. This method can also be used in the determination of gelatin (a more highly refined form of animal protein).

1.2 The method is based on the color reaction of Ehrlich's reagent (*p*-dimethyl-aminobenzaldehyde) with hydroxyproline, one of the amino acids derived from collagen. It is specific for glue and gelatin; other nitrogenous materials do not interfere.

1.3 Two qualitative procedures are given, which are essentially the same: a macromethod where at least 100 mm² of paper is available and a micromethod where only 10 mm² can be used.

1.4 The scope of the quantitative procedure is given in 3.1.

NOTE 1: *Safety precautions* - This method requires the use of hazardous chemicals. Please refer to specific Material Safety Data Sheets for personal protective equipment, safe handling precautions, and disposal requirements.

2. Qualitative determination

2.1 *Apparatus*

2.1.1 *Boiling water bath*, a 600- or 100-mL beaker heated on an electric hot plate is satisfactory.

2.1.2 *Clamps*, to hold test tubes in the bath. Thermometer clamps attached to the rim of the beaker may be used for the micromethod.