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## ASTM D1193 - 99e1 Standard Specification for Reagent Water

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### Abbreviation

ASTM D1193 - 99e1

### Amendment

includes editorial correction 'e1' (October 2001)

### Valid from

10/02/1999

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### Information provider

American Society of Testing and Materials

### Author

American Society of Testing and Materials

### Information type

ASTM Standard

### Format

PDF

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### Description

This specification covers requirements for water suitable for use in methods of chemical analysis and physical testing.

### Scope

This specification covers requirements for water suitable for use in methods of chemical analysis and physical testing. Four grades

A. The measurement of pH in Type I, II, and III reagent waters has been eliminated from this specification because these grades of water do not contain constituents in sufficient quantity to significantly alter the pH.

B. EU = Endotoxin Units.

The method of preparation of the various grades of reagent water determines the limits of impurities and shall be as follows:

- Type I grade of reagent water shall be prepared by distillation or other equal process, followed by polishing with a mixed bed of ion exchange materials and a 0.2- $\mu$ m membrane filter. Feedwater to the final polishing step must have a maximum conductivity of 20  $\mu$ S/cm at 298K (25oC).
- Type II grade of reagent water shall be prepared by distillation using a still designed to produce a distillate having a conductivity of less than 1.0  $\mu$ S/cm at 298 K (25oC). Ion exchange, distillation, or reverse osmosis and organic adsorption

may be required prior to distillation if the purity cannot be attained by single distillation.

Note 1—Because distillation is a process commonly relied upon to produce high purity water, the levels specified for Type II reagent water were selected to represent the minimum quality of water that a distillation process should produce.

- Type III grade of reagent water shall be prepared by distillation, ion exchange, continuous electrodeionization reverse osmosis, or a combination thereof, followed by polishing with a 0.45- $\mu$ m membrane filter.
- Type IV grade of reagent water may be prepared by distillation, ion exchange, continuous electrodeionization reverse osmosis, electrodialysis, or a combination thereof.

The choice of one of the various grades may be designated by the method or by the investigator.

This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

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