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Standard Guide for Water Analysis for Reverse Osmosis and Nanofiltration Application¹

This standard is issued under the fixed designation D 4195; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide covers the analyses that should be performed on any given water sample if reverse osmosis (RO) or nanofiltration (NF) application is being considered.

1.2 This guide is applicable to waters including brackish waters and seawaters but is not necessarily applicable to waste waters.

1.3 This is a guide only and should not be construed as a delineation of all ions known to exist in waters.

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1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.5 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*

~~D 511 Test Methods for Calcium and Magnesium in Water²~~

~~D 512 Test Methods for Chloride Ion in Water²~~ 511 Test Methods for Calcium and Magnesium In Water

~~D 513 Test Methods for Total and Dissolved Carbon Dioxide in Water²~~ 512 Test Methods for Chloride Ion In Water

~~D 515 Test Methods for Phosphorus in Water~~ 513 Test Methods for Total and Dissolved Carbon Dioxide in Water

D 516 Test Method for Sulfate Ion in Water

D 857 Test Method for Aluminum in Water

D 858 Test Methods for Manganese in Water

D 859 Test Method for Silica in Water

D 888 Test Methods for Dissolved Oxygen in Water

D 1068 Test Methods for Iron in Water

D 1129 Terminology Relating to Water

D 1179 Test Methods for Fluoride Ion in Water

D 1253 Test Methods for Residual Chlorine in Water

D 1293 Test Methods for pH of Water

~~D 1428 Test Methods for Sodium and Potassium in Water and Water-Formed Deposits by Flame Photometry (Method A)~~

~~D 1888 Test Methods for Particulate and Dissolved Matter in Water⁴~~

~~D 1889 Test Methods for Turbidity of Water²~~ 1889 Test Method for Turbidity of Water

D 2579 Test Method for Total and Organic Carbon in Water

D 3352 Test Method for Strontium Ion in Brackish Water, Seawater, and Brines

D 3370 Practices for Sampling Water from Closed Conduits

D 3561 Test Method for Lithium, Potassium, and Sodium Ions in Brackish Water, Seawater, and Brines by Atomic Absorption Spectrophotometry

D 3867 Test Methods for Nitrite-Nitrate in Water

~~D 4189 Test Method for Silt Density Index (SDI) of Water²~~

¹ This guide is under the jurisdiction of ASTM Committee D19 on ~~Water, Water~~ and is the direct responsibility of Subcommittee D19.08 on Membranes and Ion Exchange Materials.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards*, Vol 11.01, volume information, refer to the standard's Document Summary page on the ASTM website.