



New Jersey Department of Environmental Protection
**Standards for Drinking Water, Ground Water, Surface
 Water, Soil, and Indoor Air**

Barium| CAS#: 7440-39-3

Drinking Water Quality Standards
 (µg/L or ppb)

Standard: 2,000
Type: Primary
 Federal MCL

Ground Water Quality Standards
 (µg/L or ppb)

Standard: 6,000
Type: Specific
GW-Quality Criterion: 6,000
PQL: 200

Surface Water Quality Standards

(µg/L or ppb)

Freshwater
Human Health: 2,000(h)(T)
Aquatic (acute):
Aquatic (chronic):
Aquatic General:

Saline Water
Human Health:
Aquatic (acute):
Aquatic (chronic):
Aquatic General:

Soil Remediation Standards

(mg/kg)

Ingestion-Dermal Exposure Pathway
Residential: 16,000
Nonresidential: 260,000

Inhalation Exposure Pathway
Residential: 870,000
Nonresidential: NA (2)

Migration to Ground Water Exposure Pathway
Soil Remediation Standard: 2,100
Soil Leachate Remediation Standard: 120,000 µg/L

*Indoor Air Remediation Standards***

(µg /m³)

Vapor Intrusion Exposure Pathway
Residential:
Nonresidential:

Ground Water Standard Footnotes:

a = Asbestos criterion is measured in terms of fibers/liter longer than 10 micrometers ($f/L > 10 \mu\text{m}$)

Surface Water Standard Footnotes:

(a) Criteria as listed at NJA [7:9B-1.14 \(f\)3](#) above as formula

(b) Criteria as listed at NJA [7:9B-1.14 \(f\)4](#) above as formula

(d) Criterion is expressed as a function of the Water Effect Ratio (WER). For criterion in the table, WER equates to the default value of 1.0.

(fc) Criteria expressed as free cyanide (as CN)/L

(h) Human health noncarcinogen

(hc) Human health carcinogen

(ol) Organoleptic effect-based criterion with no frequency of exceedance at or above the MA7CD10 flow

(s) Dissolved criterion

(T) Total recoverable criterion

FW1 means those fresh waters, as designated in N.J.A.C. 7:9B-1.15(j), that are to be maintained in their natural state of quality (set aside for posterity) and not subjected to any manmade wastewater discharges or increases in runoff from anthropogenic activities. These waters are set aside for posterity because of their clarity, color, scenic setting, other characteristic of aesthetic value, unique ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s).

FW2 means the general surface water classification applied to those fresh waters that are not designated as FW1 or Pinelands Waters.

FW2-TP means FW2 trout production.

FW2-TM means FW2 trout maintenance.

FW2-NT means FW2 non- trout.

PL means Pinelands Waters

SE1 means saline estuarine waters whose designated uses are listed in [N.J.A.C. 7:9B-1.12\(d\)](#).

SE2 means saline estuarine waters whose designated uses are listed in [N.J.A.C. 7:9B-1.12\(e\)](#).

SE3 means saline estuarine waters whose designated uses are listed in [N.J.A.C. 7:9B-1.12\(f\)](#).

SC means the general surface water classification applied to saline coastal waters

Soil Remediation Standards Footnotes:

(1) Not applicable because toxicological information that meets the Site Remediation and Waste Management Program's policy is not available

(2) Not applicable because the calculated health-based criterion exceeds one million mg/kg

(3) Not applicable because the calculated health-based criterion exceeds the soil saturation limit

(4) Not applicable because the calculated health-based soil criterion exceeds the soil saturation limit

(5) Not applicable because ground water remediation standard is a secondary standard

(6) Not applicable because a ground water remediation standard does not exist

(7) Standard is based on natural background

(8) Standard set at reporting limit

(9) Exceeds soil saturation limit; however, health-based criterion based on particulate portion of the equation

(10) Standard based on the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children

(11) Standard based on the Adult Lead Model (ALM)

(12) This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs)

(13) This standard is used for comparison to site soil leachate data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs)

NA: Standard Not Applicable

NR: Chemical Not Regulated

Indoor Air Remediation Standards Footnotes:

(i) Not applicable because toxicological information that meets the Site Remediation and Waste Management's policy is not available

(ii) Standard set at reporting limit

(iii) Value is for elemental mercury

NA: Standard Not Applicable

NR: Chemical Not Regulated

**Indoor air remediation standards are to be used when evaluating the vapor intrusion exposure pathway