



Technical Memo

NJDEP May 17, 2021 Amendments to the Soil Remediation Standards

Updated: June 14, 2021

On May 17, 2021, NJDEP adopted and published amendments to the Soil Remediation Standards (SRS) N.J.A.C. 7:26D. There are now individual Residential and Non-Residential SRS for the Ingestion-Dermal and Inhalation pathways. The previous Direct Soil Contact limits were replaced with the new categories. The previous Impact to Groundwater criteria have been replaced with Migration to Groundwater standards. Most of the standards have been changed (higher or lower) and several compounds that previously had no soil standards have been added.

Information regarding the Amendments can be found on the NJDEP Remediation Standards page at: <https://www.nj.gov/dep/srp/guidance/rs/>. Found at this link are guidance documents addressing the following:

- Remediation Standards
- Phase-In and Order of Magnitude Guidance
- Basis and Background Documents
- Guidance Documents for Alternative Remediation Standards for the Ingestion-Dermal, Inhalation, Migration to Groundwater and Vapor Intrusion pathways
- Calculators for developing Alternative Remediation Standards for the various pathways
- Extractable Petroleum Hydrocarbon guidance
- Chromium guidance
- Alternative or Interim Remediation Standards and or Screening Level Application Forms
- Attainment and compliance documents which pertain specifically to the migration to ground water exposure pathway may be accessed at www.nj.gov/dep/srp/guidance/

IAL understands that the NJDEP will require consultants to compare soil sample data to all categories of the new 2021 standards. IAL can provide comparison tables in Excel of soil data compared to the previous 2017 SRS or the 2021 SRS. To aid in a review of the changes from the 2017 SRS, IAL has compiled Excel tables with highlights indicating if a 2021 SRS is higher, lower, an order of magnitude different or newly added. These tables will accompany this document as a separate Excel file.

We at IAL hope you find this information useful. Should you have any questions for the lab regarding these changes, please contact your Project Manager at 973-361-4252.

Thank you!

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IAL is a NELAP New Jersey Accredited Lab (14751) and maintains certification in Connecticut (PH-0699), New York (11402), and Pennsylvania (68-00773).

N.J.A.C. 7:26D REMEDIATION STANDARDS TABLES last amended: May 17, 2021

Comparison Table

CAS #	Contaminant	Residential			Nonresidential			Old Impact to Ground Water		Table 5 Migration to Ground Water	
		Old Direct Contact	Table 1 Ingestion-Dermal (mg/Kg)	* Table 3 Inhalation	Old Direct Contact	Table 2 Ingestion-Dermal (mg/Kg)	* Table 4 Inhalation	Old Impact to Ground Water (mg/Kg)	Table 5 Migration to Ground Water (mg/Kg)		
83-32-9	Acenaphthene	3400	3600	NA ¹	37000	50000	NA ¹	110	NA ¹		
67-64-1	Acetone (2-Propanone)	70000	70000	NA ¹	NA	NA ¹	NA ¹	19	19		
98-86-2	Acetophenone	2	7800	NA ¹	5	130000	NA ¹	3	3.6		
309-00-2	Aldrin	0.04	0.041	NA ¹	0.2	0.21	NA ¹	0.2	0.13		
7429-90-5	Aluminum (total)	78000	78000	NA ²	NA	NA ¹	NA ²	6000	NA ²		
120-12-7	Anthracene	17000	18000	NA ¹	30000	250000	NA ¹	2400	NA ¹		
7440-36-0	Antimony (total)	31	31	NA ¹	450	520	NA ¹	6	5.4		
7440-38-2	Arsenic (total)	19	19	¹ 1100	19	19	² 5200	19	19		⁴
1912-24-9	Atrazine	210	220	NA ¹	2400	3200	NA ¹	0.2	0.33		⁵
7440-39-3	Barium (total)	16000	16000	870000	59000	260000	NA ²	2100	2100		
100-52-7	Benzaldehyde	6100	170	NA ¹	68000	910	NA ¹	NA	NA ⁶ (RL=0.33)		
71-43-2	Benzene	2	3	2.2	5	16	11	0.005	0.0094		
56-55-3	Benzo(a)anthracene (1,2-Benzanthracene)	5	5.1	78000	17	23	370,000	0.8	0.71		
50-32-8	Benzo(a)pyrene	0.5	0.51	3500	2	2.3	16,000	0.2	NA ¹		
205-99-2	Benzo(b)fluoranthene (3,4-Benzofluoranthene)	5	5.1	78000	17	23	370,000	2	NA ¹		
207-08-9	Benzo(k)fluoranthene	45	51	780,000	170	230	NA ^{2,3}	25	NA ¹		
7440-41-7	Beryllium	16	160	2000	140	2600	9300	0.7	0.7		
92-52-4	Biphenyl, 1,1-	61	87	NA ¹	240	450	NA ¹	140	NA ¹		
111-91-1	Bis(2-chloroethoxy)methane	NS	190	NA ¹	NS	2700	NA ¹	NS	NA ⁶ (RL=0.17)		
111-44-4	Bis(2-chloroethyl) ether	0.4	0.63	NA ¹	2	3.3	NA ¹	0.2	0.33		⁵
117-81-7	Bis(2-ethylhexyl)phthalate	35	39	NA ¹	140	180	NA ¹	1200	14		
75-27-4	Bromodichloromethane (Dichlorobromomethane)	1	11	NA ¹	3	59	NA ¹	0.005	0.005		⁵
75-25-2	Bromoform	81	88	NA ¹	280	460	NA ¹	0.03	0.018		
74-83-9	Bromomethane (Methyl bromide)	25	110	18	59	1800	82	0.04	0.043		
78-93-3	Butanone, 2- (Methyl ethyl ketone) (MEK)	3100	47000	NA ^{2,3}	44000	780000	NA ^{2,3}	0.9	0.98		
85-68-7	Butylbenzyl phthalate	1200	290	NA ¹	14000	1300	NA ¹	230	29		
7440-43-9	Cadmium	78	71	2600	78	1100	12000	2	1.9		
105-60-2	Caprolactam	31000	32000	290	340000	460000	1300	12	16		
75-15-0	Carbon disulfide	7800	NA	NA ^{2,3}	110000	NA	NA ^{2,3}	6	3.7		
56-23-5	Carbon tetrachloride	2.0	7.6	1.4	4	40	6.9	0.005	0.0075		
57-74-9	Chlordane (alpha and gamma forms summed)	0.2	0.27	NA ^{2,3}	1	1.4	NA ^{2,3}	0.05	1.4		
106-47-8	Chloroaniline, 4-	NS	2.7	NA ¹	NS	13	NA ¹	NS	0.23		
108-90-7	Chlorobenzene	510	510	NA ^{2,3}	7400	8400	NA ^{2,3}	0.6	0.64		
75-00-3	Chloroethane (Ethyl chloride)	220	NA	NA ^{2,3}	1100	NA	NA ^{2,3}	NA	NA ⁶ (RL=1700)		
67-66-3	Chloroform	0.6	780	590	2	13000	NA ^{2,3}	0.4	0.33		
74-87-3	Chloromethane (Methyl chloride)	4	NA	270	12	NA	1200	NA	NA ⁶ (RL=1700)		
91-58-7	Chloronaphthalene, 2-	NS	4800	NA ¹	NS	67000	NA ¹	NS	NA ¹		
95-57-8	Chlorophenol, 2- (o-Chlorophenol)	310	390	NA ¹	2200	6500	NA ¹	0.8	0.76		
218-01-9	Chrysene	450	510	NA ^{2,3}	1700	2300	NA ^{2,3}	80	NA ¹		
7440-48-4	Cobalt (total)	1600	23	520	590	390	2500	90	90		
7440-50-8	Copper (total)	3100	3100	NA ¹	45000	52000	NA ¹	11000	910		
57-12-5	Cyanide	47	47	NA ²	680	780	NA ²	20	20		
110-82-7	Cyclohexane	NS	NA	NA ^{2,3}	NS	NA	NA ^{2,3}	NS	NA ⁶ (RL=65)		
72-54-8	DDD, 4,4- (p,p-TDE)	3	2.3	NA ¹	13	11	NA ¹	4	0.47		
72-55-9	DDE, 4,4- (p,p-DDX)	2	2	NA ¹	9	11	NA ¹	18	0.47		
50-29-3	DDT, 4,4-	2	1.9	NA ¹	8	9.5	NA ¹	11	0.67		
53-70-3	Dibenz(a,h)anthracene	0.5	0.51	7,800	2	2.3	37,000	0.8	NA ¹		
124-48-1	Dibromochloromethane (Chlorodibromomethane)	3	8.3	NA ¹	8	43	NA ¹	0.005	0.005		⁵
96-12-8	Dibromo-3-chloropropane, 1,2-	0.08	0.87	0.026	0.2	4.5	0.12	0.005	0.005		⁵
106-93-4	Dibromomethane, 1,2- (Ethylene dibromide)	0.008	0.35	0.085	0.04	1.8	0.41	0.005	0.005		⁵
95-50-1	Dichlorobenzene, 1,2- (o-Dichlorobenzene)	5300	6700	NA ^{2,3}	59000	110000	NA ^{2,3}	17	11		
541-73-1	Dichlorobenzene, 1,3- (m-Dichlorobenzene)	5300	6700	NA ¹	59000	110000	NA ¹	19	11		
106-46-7	Dichlorobenzene, 1,4- (p-Dichlorobenzene)	5	780	NA ^{2,3}	13	13000	NA ^{2,3}	2	1.4		
91-94-1	Dichlorobenzidine, 3,3	1	1.2	NA ¹	4	5.7	NA ¹	0.2	3.9		

N.J.A.C. 7:26D REMEDIATION STANDARDS TABLES last amended: May 17, 2021

Comparison Table

CAS #	Contaminant	Residential			Nonresidential			Old Impact to Ground Water (mg/Kg)	Table 5 Migration to Ground Water (mg/Kg)
		Old Direct Contact	Table 1 Ingestion-Dermal (mg/Kg)	* Table 3 Inhalation	Old Direct Contact	Table 2 Ingestion-Dermal (mg/Kg)	* Table 4 Inhalation		
75-71-8	Dichlorodifluoromethane (Freon 12)	490	16000	NA ¹	230000	260000	NA ¹	39	38
75-34-3	Dichloroethane, 1,1-	8	120	NA ¹	24	640	NA ¹	0.2	0.24
107-06-2	Dichloroethane, 1,2-	0.9	5.8	71	3	30	320	0.005	0.0095
75-35-4	Dichloroethene, 1,1- (1,1-Dichloroethylene)	11	11	52	150	180	240	0.008	0.0069
156-59-2	Dichloroethene, 1,2- (cis) (c-1,2-Dichloroethylene)	230	780	NA ¹	560	13000	NA ¹	0.3	0.35
156-60-5	Dichloroethene, 1,2- (trans) (t-1,2-Dichloroethylene)	300	1300	NA ¹	720	22000	NA ¹	0.6	0.56
120-83-2	Dichlorophenol, 2,4-	180	190	NA ¹	2100	2700	NA ¹	0.2	0.19
78-87-5	Dichloropropane, 1,2-	2	19	5.7	5	98	27	0.005	0.0058
542-75-6	Dichloropropene, 1,3- (total)	2	7	4.8	7	36	23	0.005	0.0063
60-57-1	Dieldrin	0.04	0.034	NA ¹	0.2	0.16	NA ¹	0.003	0.024
84-66-2	Diethylphthalate	49000	51000	NA ¹	550000	730000	NA ¹	88	44
105-67-9	Dimethylphenol, 2,4-	1200	1300	NA ¹	14000	18000	NA ¹	1	2.3
84-74-2	Di-n-butyl phthalate	6100	6300	NA ¹	68000	91000	NA ¹	760	NA ¹
51-28-5	Dinitrophenol, 2,4-	120	130	NA ¹	1400	1800	NA ¹	0.3	0.33
25321-14-6	Dinitrotoluene, 2,4-/2,6-Dinitrotoluene (mixture)	0.7	0.8	NA ¹	3	3.8	NA ¹	0.2	0.27
117-84-0	Di-n-octyl phthalate	2400	630	NA ¹	27000	9100	NA ¹	3300	NA ¹
123-91-1	Dioxane, 1,4-	NS	7.0	45	NS	36	210	NS	0.067
115-29-7	Endosulfan I and Endosulfan II (alpha and beta) (summed)	470	470	NA ¹	6800	7800	NA ¹	4	NA ¹
72-20-8	Endrin	23	19	NA ¹	340	270	NA ¹	1	1.6
100-41-4	Ethylbenzene	7800	7800	10	110000	130000	48	13	15
Varies	Extractable Petroleum Hydrocarbons (Category 1)	NS	5300	³ NA ¹	NS	75000	³ NA ¹	NS	NA ⁶ (RL=80)
Varies	Extractable Petroleum Hydrocarbons (Category 2)	NS	Sample-specific	⁴ NA ¹	NS	Sample-specific	⁴ NA ¹	NS	NA ⁶ (RL=80)
206-44-0	Fluoranthene	2300	2400	NA ¹	24000	33000	NA ¹	1300	NA ¹
86-73-7	Fluorene	2300	2400	NA	24000	33000	NA ¹	170	NA ¹
319-84-6	HCH, alpha- (alpha-BHC)	0.1	0.086	NA ¹	0.5	0.41	NA ¹	0.002	0.0023
319-85-7	HCH, beta- (beta-BHC)	0.4	0.3	NA ¹	2	1.4	NA ¹	0.002	0.0046
76-44-8	Heptachlor	0.1	0.15	NA ¹	0.7	0.81	NA ¹	0.5	0.083
1024-57-3	Heptachlor epoxide	0.07	0.076	NA ¹	0.3	0.4	NA ¹	0.01	0.081
118-74-1	Hexachlorobenzene	0.3	0.43	NA ¹	1	2.3	NA ¹	0.2	0.17
87-68-3	Hexachloro-1,3-butadiene	6	8.9	NA ¹	25	47	NA ¹	0.9	0.17
77-47-4	Hexachlorocyclopentadiene	45	470	2.7	110	7800	NA ^{2,3}	320	2.5
67-72-1	Hexachloroethane	12	17	NA ^{2,3}	48	91	NA ^{2,3}	0.2	0.17
110-54-3	n-Hexane	NS	NA	NA ^{2,3}	NS	NA	NA ^{2,3}	NS	5.5
591-78-6	Hexanone, 2-	NS	390	1000	NS	6500	NA ^{2,3}	NS	0.15
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	5.1	78,000	17	23	370,000	7	NA ¹
78-59-1	Isophorone	510	570	NA ^{2,3}	2000	2700	NA ^{2,3}	0.2	0.23
98-82-8	Isopropylbenzene	NS	7800	NA ^{2,3}	NS	130000	NA ^{2,3}	NS	22
7439-92-1	Lead (total)	400	400	⁵ NA ¹	800	800	⁵ NA ¹	90	90
58-89-9	Lindane (gamma-HCH)(gamma-BHC)	0.4	0.57	NA ¹	2	2.8	NA ¹	0.002	0.0035
7439-96-5	Manganese (total)	11000	1900	87000	5900	31000	400000	65	NA ²
7439-97-6	Mercury (total)	23	23	520,000	65	390	NA ^{2,3}	0.1	0.1
72-43-5	Methoxychlor	390	320	NA ¹	5700	4600	NA ¹	160	NA ¹
79-20-9	Methyl acetate	78000	78000	NA ¹	NA	NA ¹	NA ¹	22	22
75-09-2	Methylene Chloride (Dichloromethane)	46	50	1400	230	260	NA ^{2,3}	0.01	0.013
91-57-6	Methylnaphthalene, 2-	230	240	NA ¹	2400	3300	NA ¹	8	3.1
108-10-1	Methyl, 4- pentanone, 2- (MIBK)	NS	NA	NA ^{2,3}	NS	NA	NA ^{2,3}	NS	NA ⁶ (RL=3400)
95-48-7	Methylphenol, 2- (o-cresol)	310	320	NA ¹	3400	4600	NA ¹	NS	0.77
106-44-5	Methylphenol, 4- (p-cresol)	31	630	NA ¹	340	9100	NA ¹	NS	0.75
1634-04-4	Methyl tert-butyl ether (MTBE)	110	780	140	320	13000	650	0.2	0.25
91-20-3	Naphthalene	6	2500	5.7	17	34000	27	25	19
7440-02-0	Nickel (total)	1600	1600	20000	23000	26000	93000	48	48
100-01-6	Nitroaniline, 4-	NS	27	NA ^{2,3}	NS	130	NA ^{2,3}	NS	NA ⁶ (RL=0.33)

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Comparison Table

CAS #	Contaminant	Residential			Nonresidential			Old Impact to Ground Water (mg/Kg)	Table 5 Migration to Ground Water (mg/Kg)
		Old Direct Contact	Table 1 Ingestion-Dermal (mg/Kg)	* Table 3 Inhalation	Old Direct Contact	Table 2 Ingestion-Dermal (mg/Kg)	* Table 4 Inhalation		
98-95-3	Nitrobenzene	5	160	7.5	14	2600	36	0.2	0.17 ⁵
621-64-7	Nitrosodi, N- propylamine, -n	0.2	0.17 ²	NA ¹	0.3	0.36	NA ¹	0.2	0.17 ⁵
86-30-6	Nitrosodiphenylamine, N-	99	110	NA ¹	390	520	NA ¹	0.4	1.1
108-60-1	oxybis(1-chloropropane), 2,2-	23	3100	NA ¹	67	52000	NA ¹	5	1.9
87-86-5	Pentachlorophenol	0.9	1	NA ¹	3	4.4	NA ¹	0.3	0.33 ⁵
108-95-2	Phenol	18000	19000	39000	210000	270000	NA ^{2,3}	8	21
1336-36-3	Polychlorinated biphenyls (PCBs)	0.2	0.25	NA ¹	1	1.1	NA ¹	0.2	1.6
129-00-0	Pyrene	1700	1800	NA ¹	18000	25000	NA ¹	840	NA ¹
7782-49-2	Selenium (total)	390	390	NA ¹	5700	6500	NA ¹	11	11
7440-22-4	Silver (total)	390	390	NA ¹	5700	6500	NA ¹	1	0.5 ⁵
100-42-5	Styrene	90	16000	NA ^{2,3}	260	260000	NA ^{2,3}	3	2.1
75-65-0	Tertiary butyl alcohol (TBA)	1400	1400	NA ¹	11000	23000	NA ¹	0.3	0.32
95-94-3	Tetrachlorobenzene, 1,2,4,5-	NS	23	NA ¹	NS	390	NA ¹	NS	NA ⁶ (RL=0.17)
1746-01-6	Tetrachlorodibenzo-p-dioxin, 2,3,7, 8-	NS	0.00051 ⁶	NA ¹	NS	0.00081 ⁶	NA ¹	NS	0.0001 ⁷
79-34-5	Tetrachloroethane, 1,1,2,2-	1	3.5	NA ¹	3	18	NA ¹	0.007	0.0069
127-18-4	Tetrachloroethene (PCE) (Tetrachloroethylene)	43	330	47	1500	1700	NA ^{2,3}	0.005	0.0086
58-90-2	Tetrachlorophenol, 2,3,4,6-	NS	1900	NA ¹	NS	27000	NA ¹	NS	26
108-88-3	Toluene	6300	6300	NA ^{2,3}	91000	100000	NA ^{2,3}	7	7.8
8001-35-2	Toxaphene	0.6	0.49	NA ¹	3	2.3	NA ¹	0.3	6.2
120-82-1	Trichlorobenzene, 1,2,4-	73	780	94	820	13000	NA ^{2,3}	0.7	0.52
71-55-6	Trichloroethane, 1,1,1-	160000	160000	NA ^{2,3}	NA	NA ¹	NA ^{2,3}	0.3	0.2
79-00-5	Trichloroethane, 1,1,2-	2	12	NA ¹	6	64	NA ¹	0.02	0.017
79-01-6	Trichloroethene (TCE) (Trichloroethylene)	3	15	3	10	79	14	0.01	0.0065
75-69-4	Trichlorofluoromethane (Freon 11)	23000	23000	NA ¹	340000	390000	NA ¹	34	29
95-95-4	Trichlorophenol, 2,4,5-	6100	6300	NA ¹	68000	91000	NA ¹	68	68
88-06-2	Trichlorophenol, 2,4,6-	19	49	NA ¹	74	230	NA ¹	0.2	0.86
76-13-1	Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon TF)	NS	NA	NA ^{2,3}	NA	NA	NA ^{2,3}	NS	NA ¹
95-63-6	Trimethylbenzene, 1,2,4-	NS	780	NA ^{2,3}	NA	13000	NA ^{2,3}	NS	NA ⁶ (RL=80)
7440-62-2	Vanadium (total)	78	390	170000	1100	6500	800000	NS	NA ⁶ (RL=2.5)
75-01-4	Vinyl chloride	0.7	0.97	1.4	2	5	6.4	0.005	0.0067
1330-20-7	Xylenes (total)	12000	12000	NA ^{2,3}	170000	190000	NA ^{2,3}	19	19
7440-66-6	Zinc (total)	23000	23000	NA ¹	110000	390000	NA ¹	930	930

	Standard is in Order of Magnitude Lower
	Standard is Lower
	Standard is Higher
	New Contaminant Standard
	Contaminant Standard Removed

*** Footnotes**

Tables 1 & 2

NA – Not applicable because appropriate toxicological information is not available

¹ Standard is based on natural background

² Standard set at reporting limit

³ Special calculation for EPH – see at N.J.A.C. 7:26D Appendix 2

⁴ Sample-specific calculation using EPH calculator – see at N.J.A.C. 7:26D Appendix 2

⁵ Standard based on the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children (res) or Adult Lead Model (ALM) (non-res)

⁶ 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)

⁷ Although n-Hexane does not have a specific reporting limit, quantification is required to be less than the applicable remediation standard

NA – Not applicable because appropriate toxicological information is not available

NA¹ – Standard not applicable because calculated health-based criterion exceeds one million

Tables 3&4

NA – Not applicable because soil saturation concentrations do not exist for metals

NA¹ – Not applicable because appropriate toxicological information is not available

NA² – Standard not applicable because the calculated health-based criterion exceeds one million mg/kg

NA³ – Standard not applicable because the calculated health-based criterion exceeds the soil saturation limit

⁴ Exceeds soil saturation limit; however, health-based criterion based on particulate portion of the equation

⁵ Value is for elemental mercury

Table 5

N.J.A.C. 7:26D REMEDIATION STANDARDS TABLES last amended: May 17, 2021

Comparison Table

<i>CAS #</i>	<i>Contaminant</i>	<i>Residential</i>			<i>Nonresidential</i>					
		<i>Old Direct Contact</i>	<i>Table 1 Ingestion- Dermal (mg/Kg)</i>	<i>* Table 3 Inhalation *</i>	<i>Old Direct Contact</i>	<i>Table 2 Ingestion- Dermal (mg/Kg)</i>	<i>* Table 4 Inhalation *</i>	<i>Old Impact to Ground Water</i>	<i>Table 5 Migration to Ground Water (mg/Kg)</i>	<i>*</i>

^A The ground water remediation standards are listed using one significant figure to be consistent with the Ground Water Quality Standards, N.J.A.C. 7:9C

NA – Not applicable

¹ Standard not applicable because the calculated health-based criterion exceeds the soil saturation limit

² Standard not applicable because ground water remediation standard is a secondary standard

³ Not applicable because soil saturation limit does not apply to this contaminant

⁴ Standard is based on natural background

⁵ Standard set to reporting limit

⁶ Standard not applicable because a ground water remediation standard does not exist

⁷ 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)