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The Risk Assessment Information System Compendium of Ecological Screening Benchmarks for Chemicals and Radionuclides (2025) (Volume VII – Chemicals for Sediment: Marine)

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November 2025

OAK RIDGE National Laboratory

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Environmental Sciences Division

THE RISK ASSESSMENT INFORMATION SYSTEM COMPENDIUM OF ECOLOGICAL SCREENING BENCHMARKS FOR CHEMICALS AND RADIONUCLIDES (2025) (VOLUME VII – CHEMICALS FOR SEDIMENT: MARINE)

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2. CHEMICAL BENCHMARKS FOR SEDIMENT (MARINE)

Table 1: Benchmark Values for Acenaphthene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
83−32−9	Canada	Sediment Marine ISQG	Not specified	0.00671	
83−32−9	Canada	Sediment Marine PEL	Not specified	0.08890	
83−32−9	EPA OSWER	Marine SQC	Not specified	1.10000	
83−32−9	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00671	
83−32−9	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.00670	
83−32−9	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.91000	
83−32−9	EPA Region 6	Sediment Saltwater	Not specified	0.01600	
83−32−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.26000	
83−32−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.50000	
83−32−9	Florida	Marine TEL	Not specified	0.00671	
83−32−9	Florida	Marine PEL	Not specified	0.08890	
83−32−9	Washington	Marine Sediment Cleanup Objective	Not specified	0.16000	34
83−32−9	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.57000	34

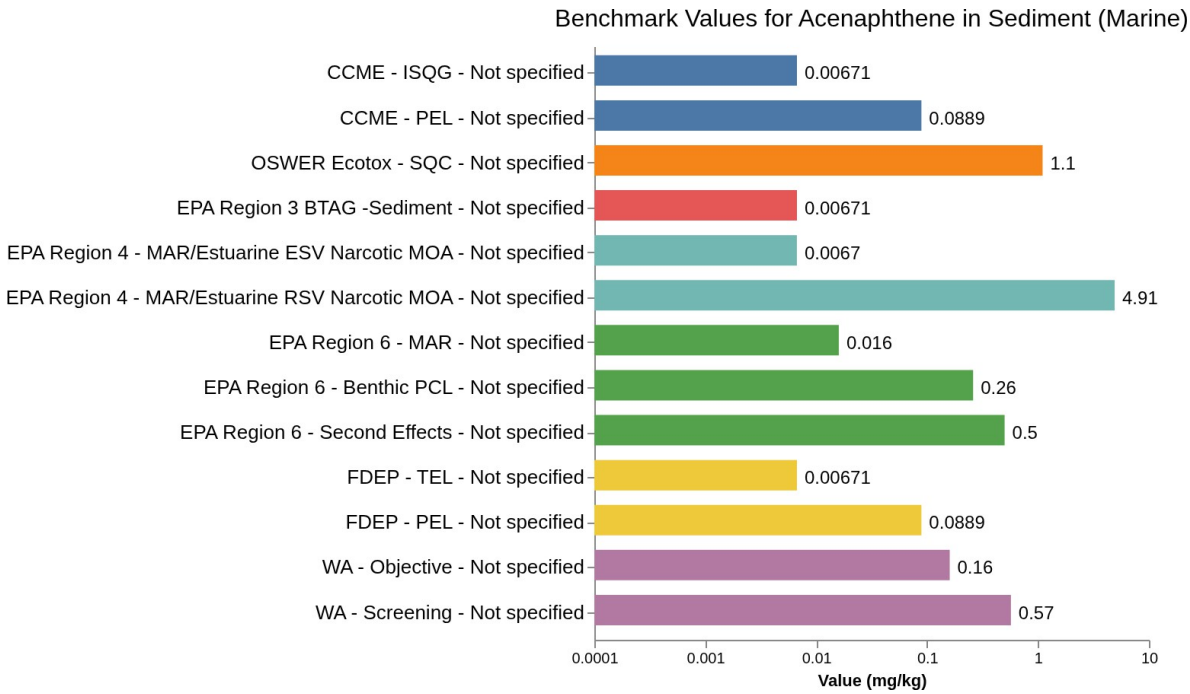


Table 2: Benchmark Values for Acenaphthylene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
208−96−8	Canada	Sediment Marine ISQG	Not specified	0.00587	
208−96−8	Canada	Sediment Marine PEL	Not specified	0.12800	
208−96−8	EPA Region 3	BTAG – Marine Sediment	Not specified	0.00587	
208−96−8	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.00590	
208−96−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.52000	
208−96−8	EPA Region 6	Sediment Saltwater	Not specified	0.04400	
208−96−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.34000	
208−96−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.64000	
208−96−8	Florida	Marine TEL	Not specified	0.00587	
208−96−8	Florida	Marine PEL	Not specified	0.12800	
208−96−8	Washington	Marine Sediment Cleanup Objective	Not specified	0.66000	34
208−96−8	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.66000	34

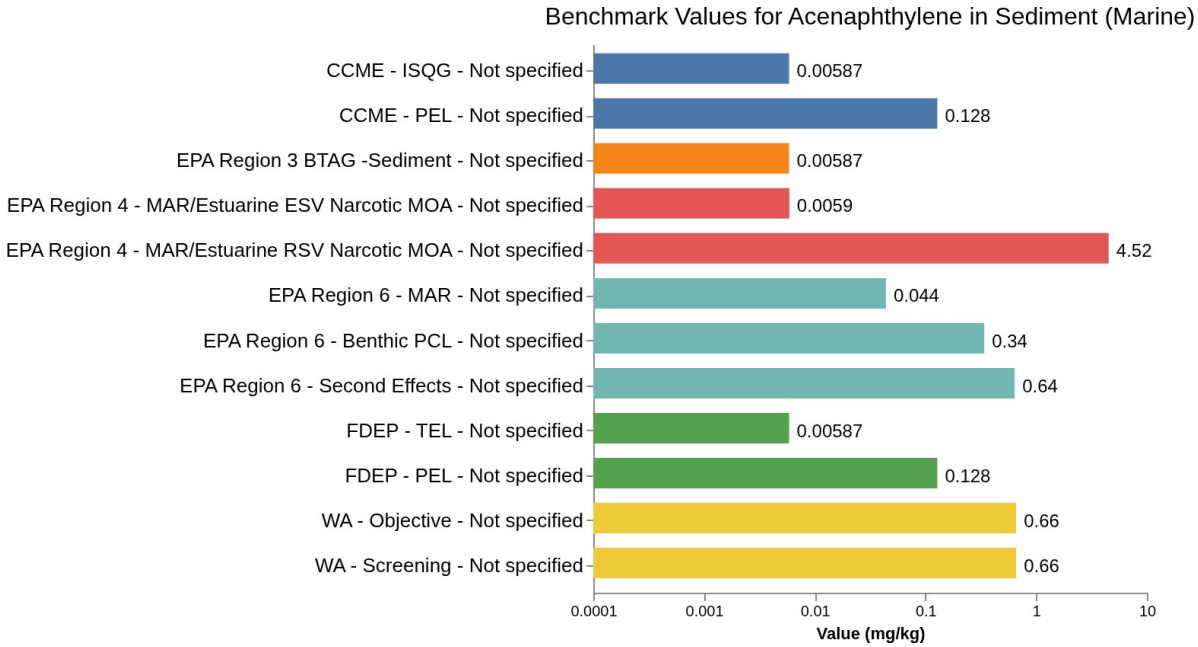


Table 3: Benchmark Values for Acetaldehyde in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−07−0	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0062
75−07−0	EPA Region 4	Marine/Estuarine RSV	Not specified	1.2910

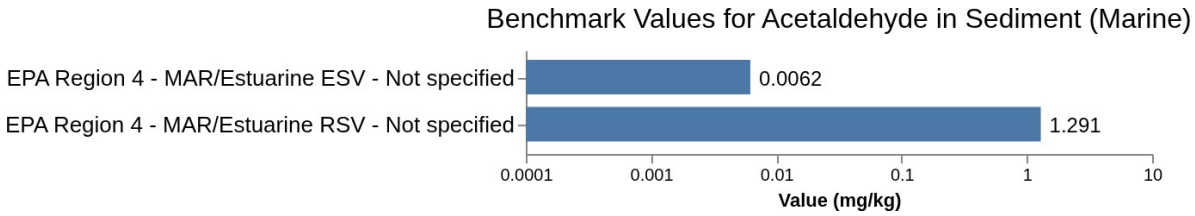


Table 4: Benchmark Values for Acetic acid, 2−(4−Chloro−2−methylphenoxy) (MCPA) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
94−74−6	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0025

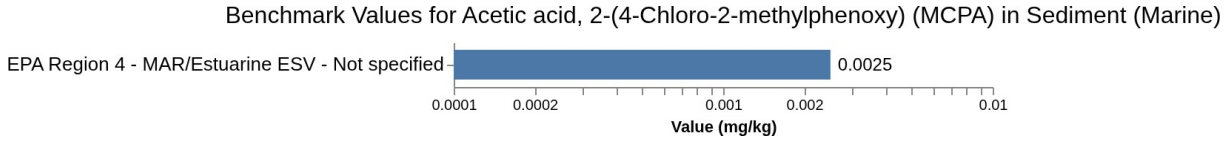


Table 5: Benchmark Values for Acetone in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
67−64−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	38.133
67−64−1	EPA Region 6	Sediment Saltwater	Not specified	167.230
67−64−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	585.300
67−64−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1003.360

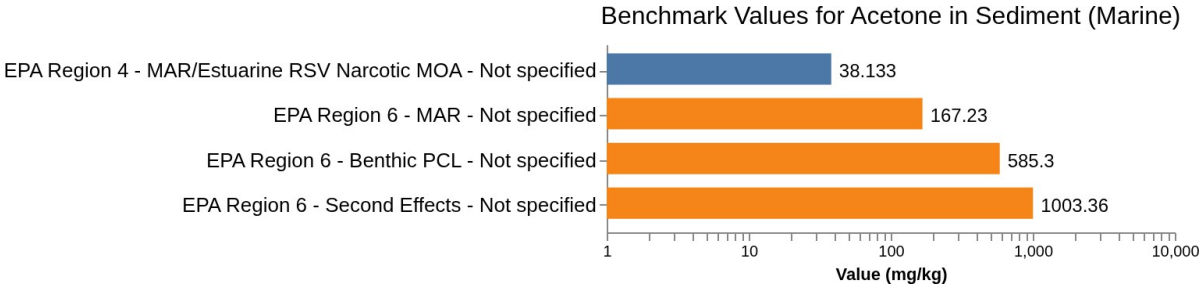


Table 6: Benchmark Values for Acetonitrile in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−05−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	25.498

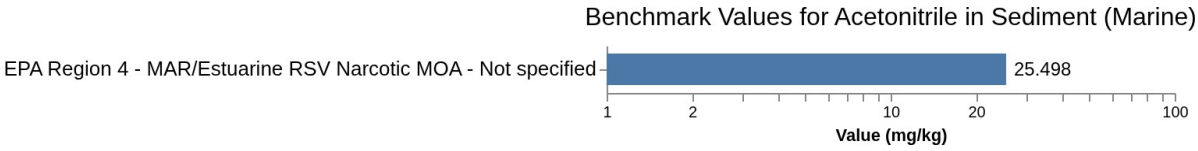


Table 7: Benchmark Values for Acrolein in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
107−02−8	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0006
107−02−8	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0034

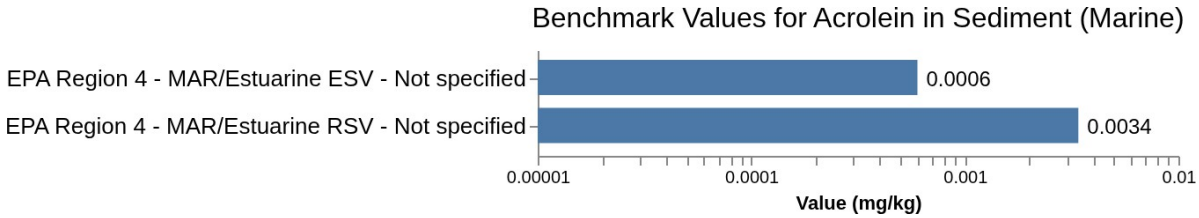


Table 8: Benchmark Values for Acrylonitrile in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
107−13−1	EPA Region 4	Marine/Estuarine RSV	Not specified	0.151
107−13−1	EPA Region 6	Sediment Saltwater	Not specified	1.080
107−13−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.160
107−13−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.240

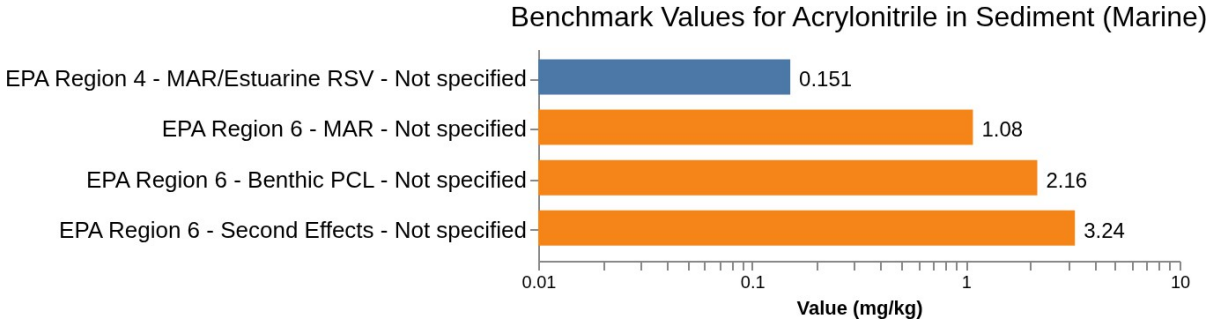


Table 9: Benchmark Values for Aldrin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
309−00−2	British Columbia	Marine Sediment LTC	Not specified	0.0050	
309−00−2	EPA Region 4	Marine/Estuarine ESV	Aquatic only	0.0001	7
309−00−2	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.0480	7

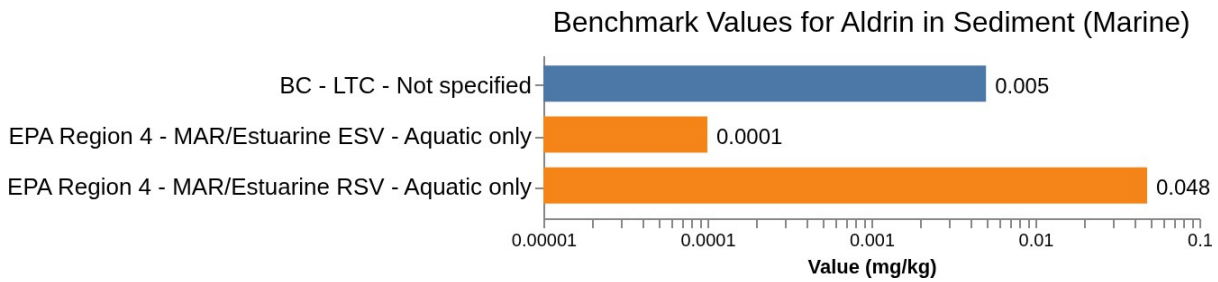


Table 10: Benchmark Values for Aniline in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
62−53−3	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0056
62−53−3	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0120

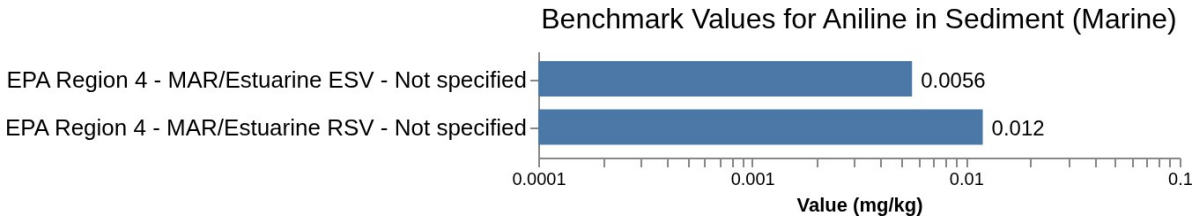


Table 11: Benchmark Values for Anthracene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
120−12−7	Canada	Sediment Marine ISQG	Not specified	0.0469	
120−12−7	Canada	Sediment Marine PEL	Not specified	0.2450	
120−12−7	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0469	
120−12−7	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0470	
120−12−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	5.9400	
120−12−7	EPA Region 6	Sediment Saltwater	Not specified	0.0853	
120−12−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.5900	
120−12−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.1000	
120−12−7	Florida	Marine TEL	Not specified	0.0469	
120−12−7	Florida	Marine PEL	Not specified	0.2450	
120−12−7	Washington	Marine Sediment Cleanup Objective	Not specified	2.2000	34
120−12−7	Washington	Marine Sediment Cleanup Screening Level	Not specified	12.0000	34

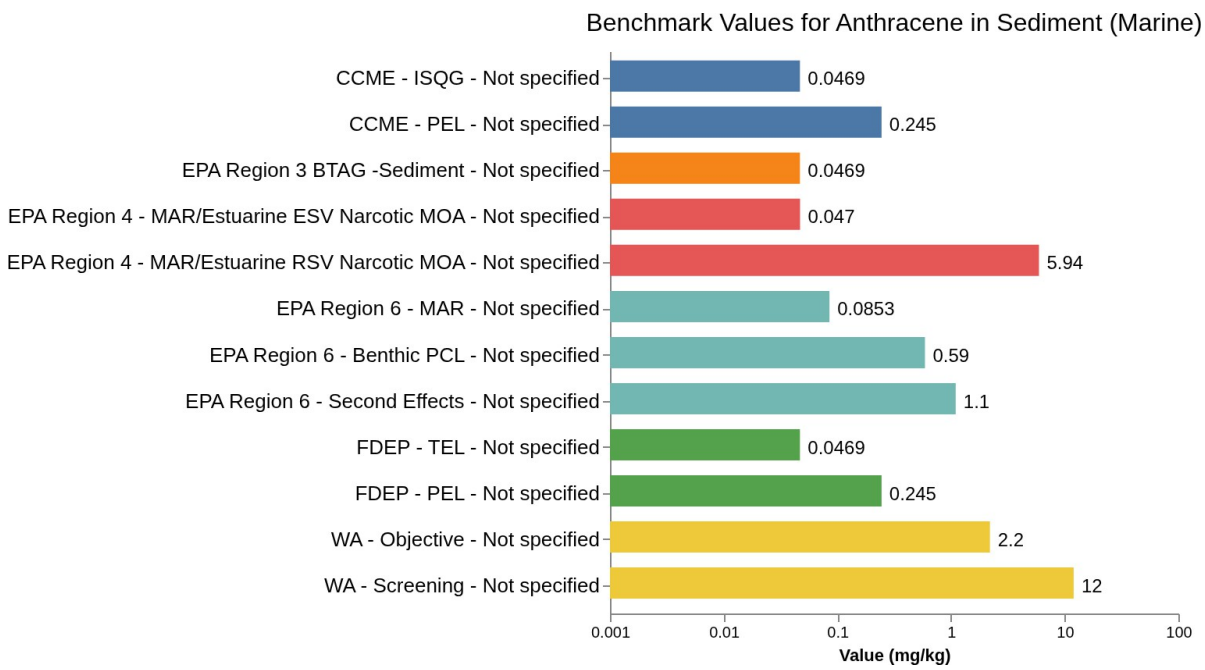


Table 12: Benchmark Values for Antimony (metallic) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
7440−36−0	EPA Region 4	Marine/Estuarine ESV	Not specified	2.0
7440−36−0	EPA Region 4	Marine/Estuarine RSV	Not specified	25.0
7440−36−0	EPA Region 6	Sediment Saltwater	Not specified	2.0
7440−36−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	13.5
7440−36−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	25.0

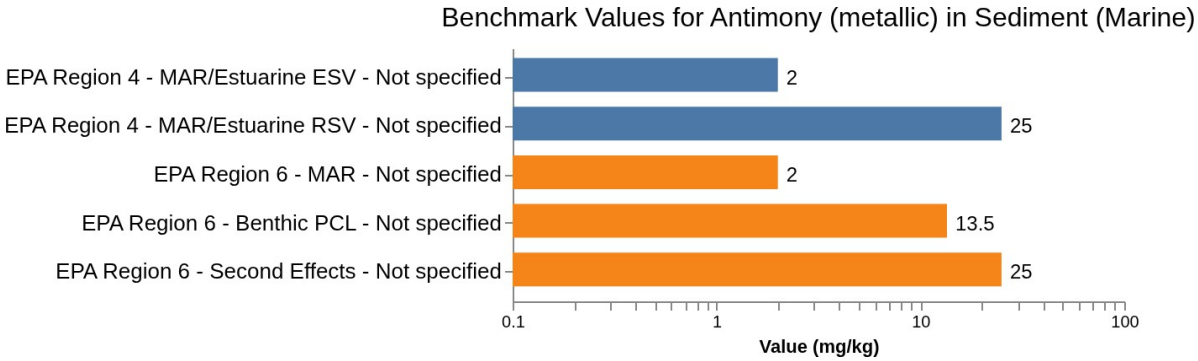


Table 13: Benchmark Values for Aroclor 1254 in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
11097−69−1	Canada	Sediment Marine ISQG	Not specified	0.0633
11097−69−1	Canada	Sediment Marine PEL	Not specified	0.7090
11097−69−1	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0633
11097−69−1	EPA Region 6	Sediment Saltwater	Not specified	0.0633
11097−69−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.3860
11097−69−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.7090

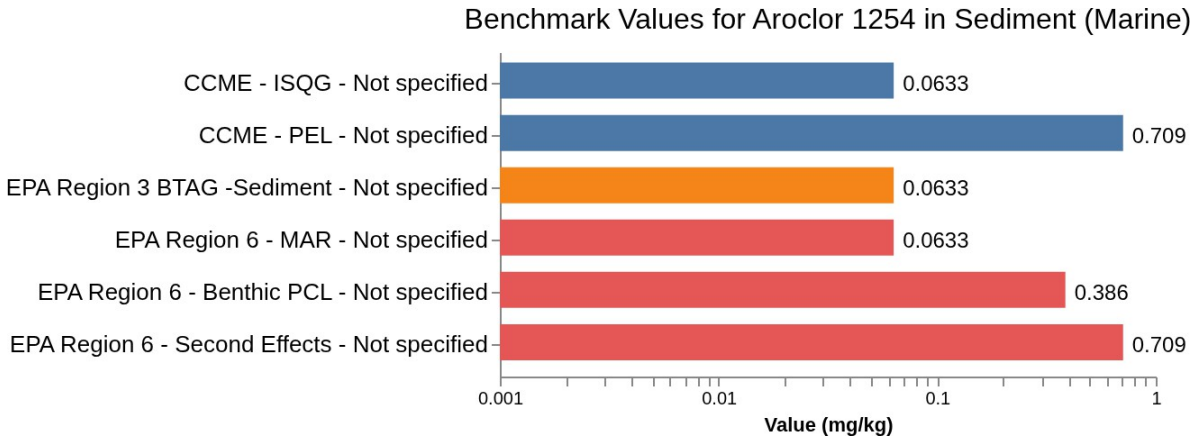


Table 14: Benchmark Values for Arsenic, Inorganic in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−38−2	Canada	Sediment Marine ISQG	Not specified	7.24	
7440−38−2	Canada	Sediment Marine PEL	Not specified	41.60	
7440−38−2	EPA Region 3	BTAG – Marine Sediment	Not specified	7.24	
7440−38−2	EPA Region 4	Marine/Estuarine ESV	Not specified	7.24	
7440−38−2	EPA Region 4	Marine/Estuarine RSV	Not specified	41.60	
7440−38−2	EPA Region 6	Sediment Saltwater	Not specified	8.20	
7440−38−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	39.10	
7440−38−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	70.00	
7440−38−2	Florida	Marine TEL	Not specified	7.24	
7440−38−2	Florida	Marine PEL	Not specified	41.60	
7440−38−2	New York DEC	Saltwater Sediment Class A	Not specified	8.20	23
7440−38−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	8.20	
7440−38−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	70.00	
7440−38−2	New York DEC	Saltwater Sediment Class C	Not specified	70.00	22
7440−38−2	Washington	Marine Sediment Cleanup Objective	Not specified	57.00	
7440−38−2	Washington	Marine Sediment Cleanup Screening Level	Not specified	93.00	

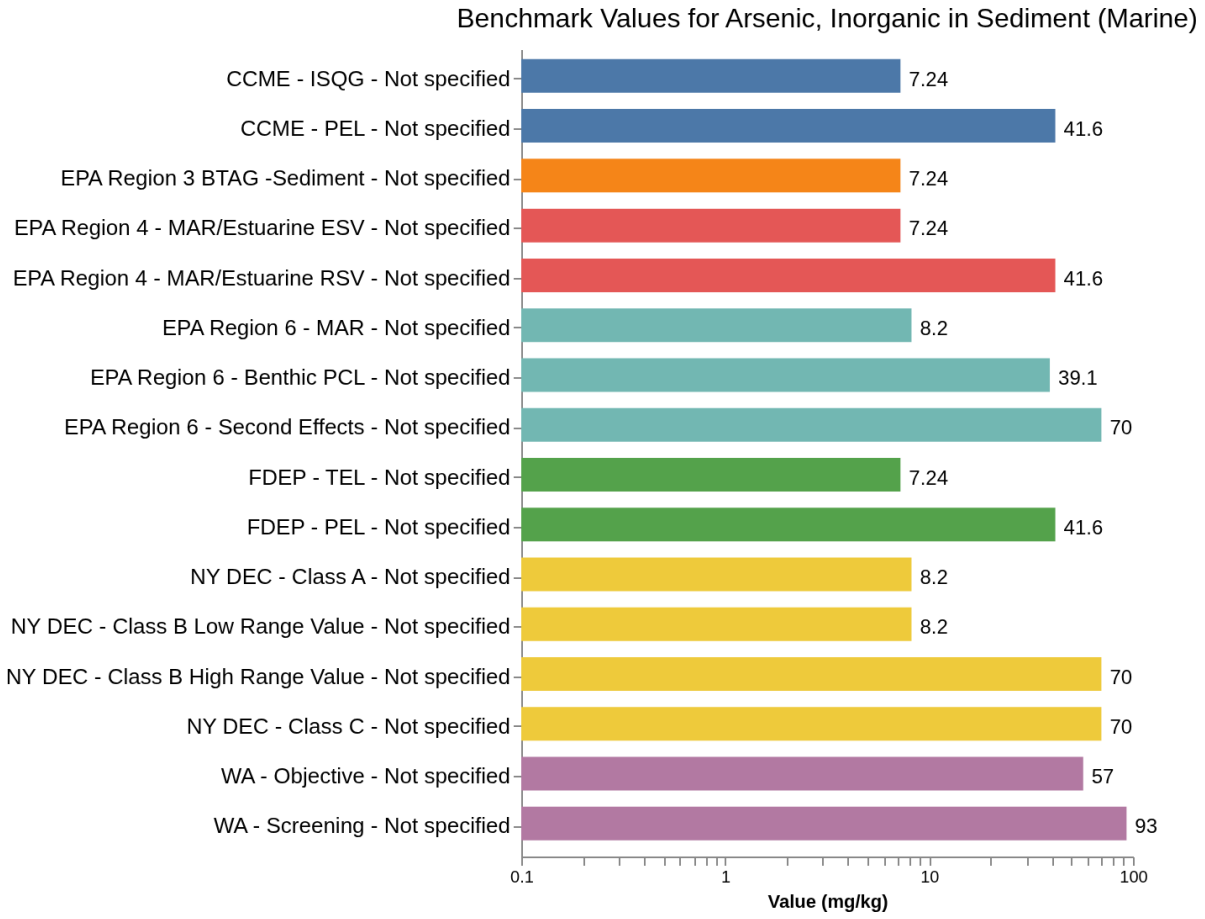


Table 15: Benchmark Values for Azinphos−methyl in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
86−50−0	EPA Region 3	BTAG – Marine Sediment	Not specified	0.000051	
86−50−0	EPA Region 4	Marine/Estuarine ESV	Not specified	0.000008	
86−50−0	EPA Region 4	Marine/Estuarine RSV	Not specified	0.000100	28
86−50−0	New York DEC	Saltwater Sediment Class A	Not specified	0.000100	23
86−50−0	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.000100	22

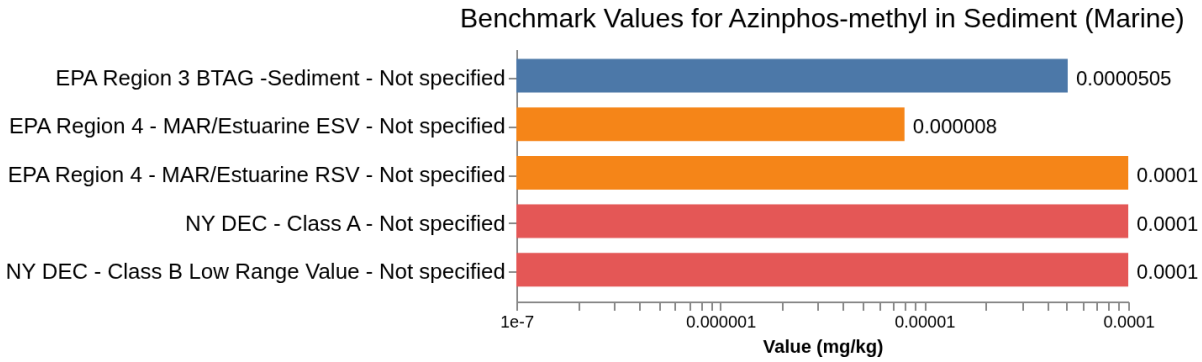


Table 16: Benchmark Values for Benfluralin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1861−40−1	New York DEC	Saltwater Sediment Class A	Not specified	0.98	23
1861−40−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.98	
1861−40−1	New York DEC	Saltwater Sediment Class C	Not specified	7.30	22
1861−40−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	7.30	

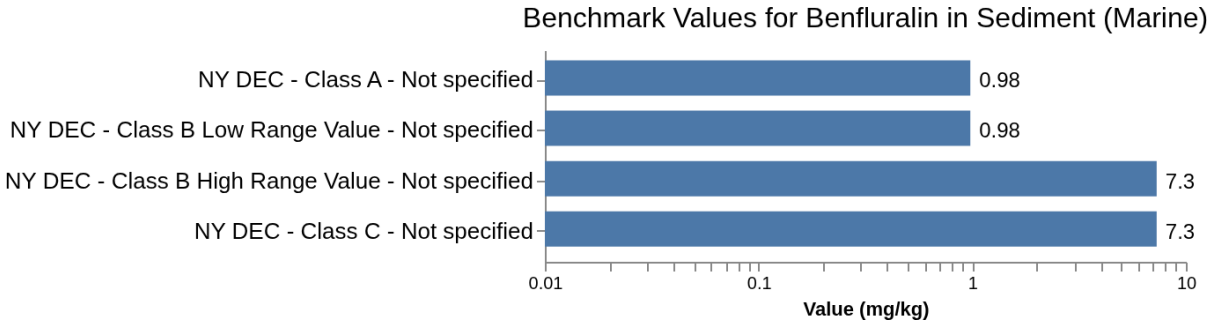


Table 17: Benchmark Values for Benz[a]anthracene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
56−55−3	Canada	Sediment Marine ISQG	Not specified	0.0748	
56−55−3	Canada	Sediment Marine PEL	Not specified	0.6930	
56−55−3	EPA Region 3	BTAG – Marine Sediment	Not specified	0.0748	
56−55−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0750	7
56−55−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	8.4100	7
56−55−3	EPA Region 6	Sediment Saltwater	Not specified	0.2610	
56−55−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.9300	
56−55−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.6000	
56−55−3	Florida	Marine TEL	Not specified	0.0748	
56−55−3	Florida	Marine PEL	Not specified	0.6930	
56−55−3	Washington	Marine Sediment Cleanup Objective	Not specified	1.1000	34
56−55−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	2.7000	34

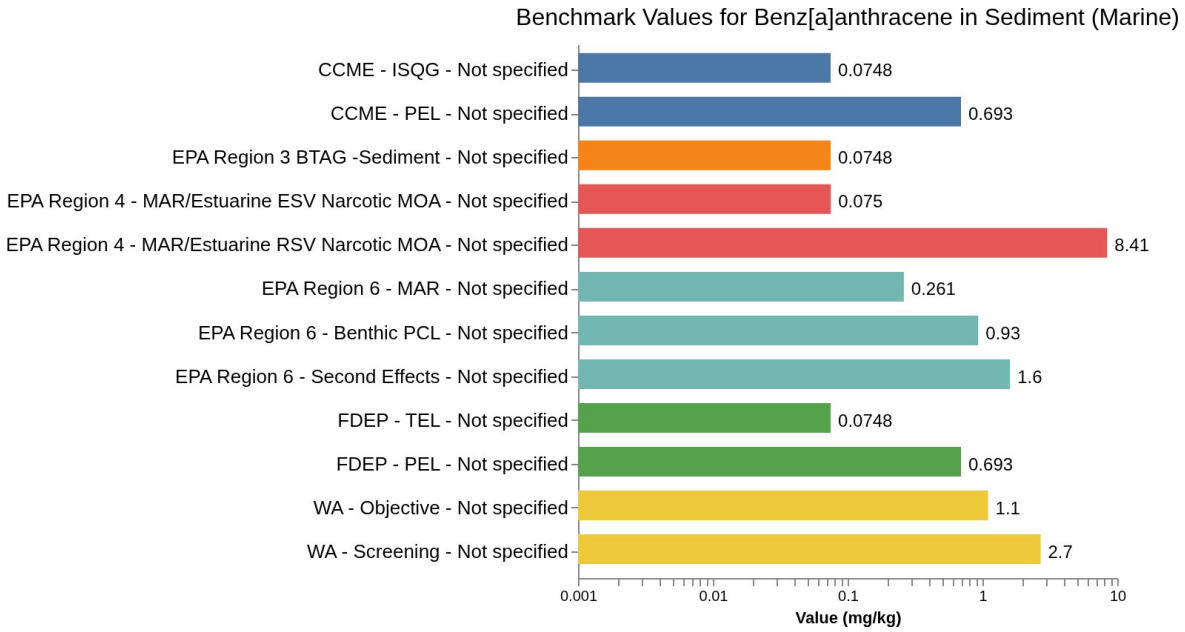


Table 18: Benchmark Values for Benzaldehyde in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
100−52−7	EPA Region 4	Marine/Estuarine ESV	Not specified	0.059
100−52−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.580

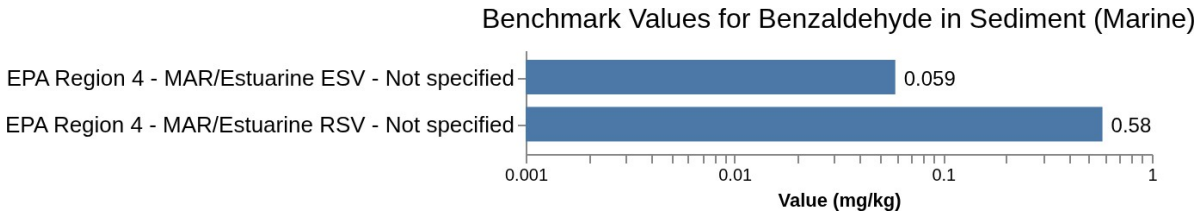


Table 19: Benchmark Values for Benzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
71−43−2	EPA Region 3	BTAG – Marine Sediment	Not specified	0.137	
71−43−2	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.111	
71−43−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.185	
71−43−2	EPA Region 6	Sediment Saltwater	Not specified	1.360	
71−43−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.720	
71−43−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	4.080	
71−43−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.460	
71−43−2	New York DEC	Saltwater Sediment Class A	Not specified	0.460	23
71−43−2	New York DEC	Saltwater Sediment Class C	Not specified	1.400	22
71−43−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.400	

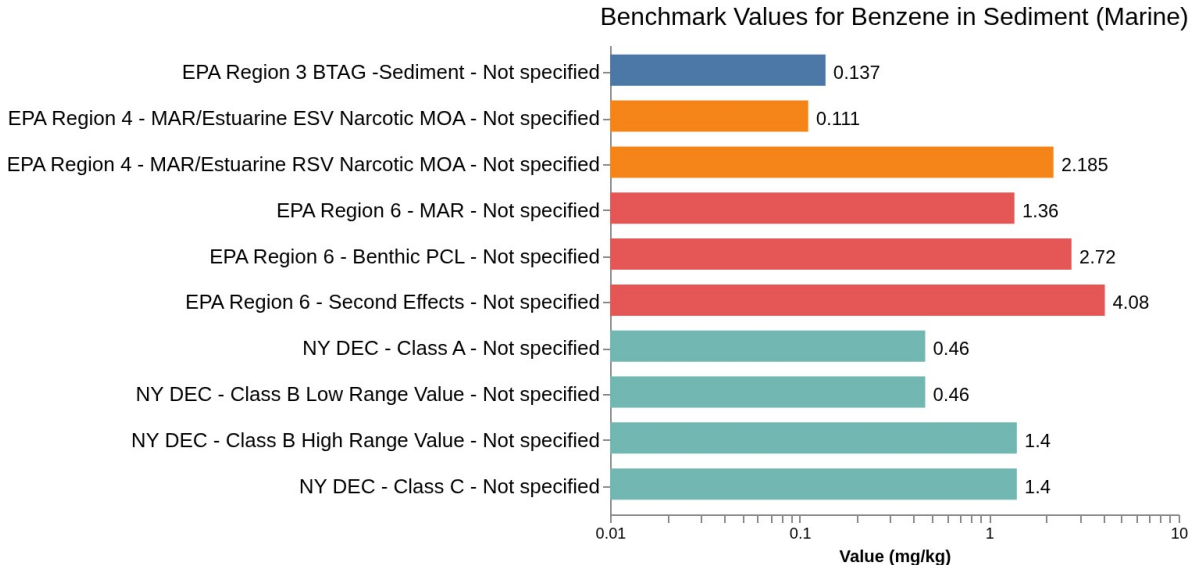


Table 20: Benchmark Values for Benzidine in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
92−87−5	EPA Region 4	Marine/Estuarine RSV	Not specified	0.017

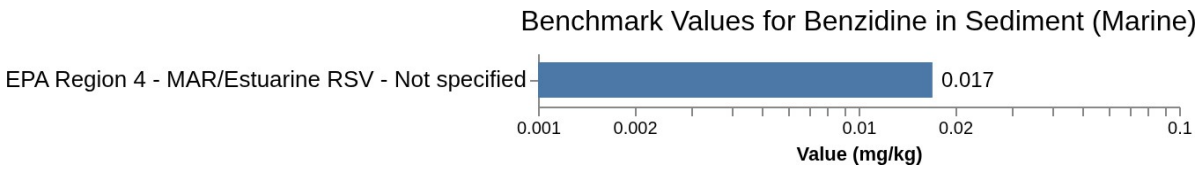


Table 21: Benchmark Values for Benzo[a]pyrene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
50−32−8	Canada	Sediment Marine ISQG	Not specified	0.0888	
50−32−8	Canada	Sediment Marine PEL	Not specified	0.7630	
50−32−8	EPA Region 3	BTAG – Marine Sediment	Not specified	0.0888	
50−32−8	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0890	7
50−32−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	9.6500	7
50−32−8	EPA Region 6	Sediment Saltwater	Not specified	0.4300	
50−32−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.0150	
50−32−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.6000	
50−32−8	Florida	Marine TEL	Not specified	0.0888	
50−32−8	Florida	Marine PEL	Not specified	0.7630	
50−32−8	Washington	Marine Sediment Cleanup Objective	Not specified	0.9900	34
50−32−8	Washington	Marine Sediment Cleanup Screening Level	Not specified	2.1000	34

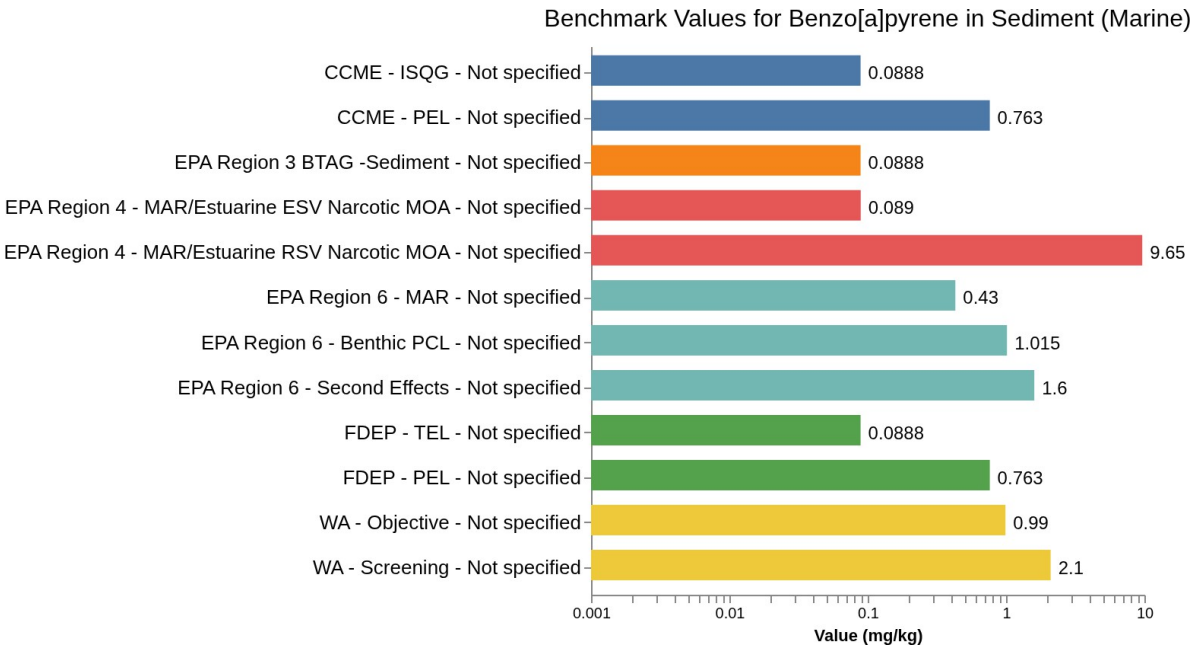


Table 22: Benchmark Values for Benzo[b]fluoranthene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
205−99−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	9.79	7

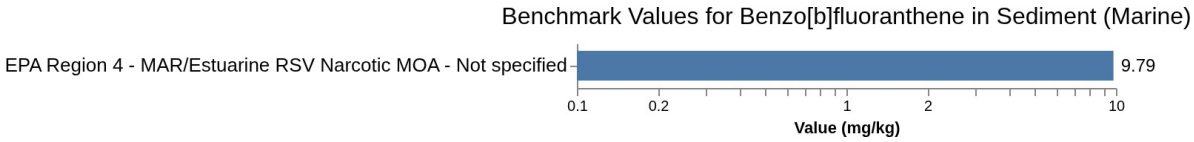


Table 23: Benchmark Values for Benzo[g,h,i]perylene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
191−24−2	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.31	7
191−24−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	10.90	7
191−24−2	Washington	Marine Sediment Cleanup Objective	Not specified	0.31	34
191−24−2	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.78	34

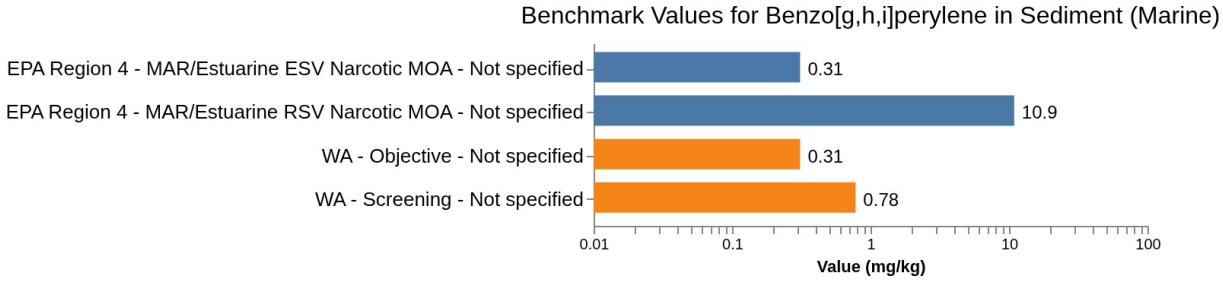


Table 24: Benchmark Values for Benzo[k]fluoranthene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
207−08−9	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	9.81	7

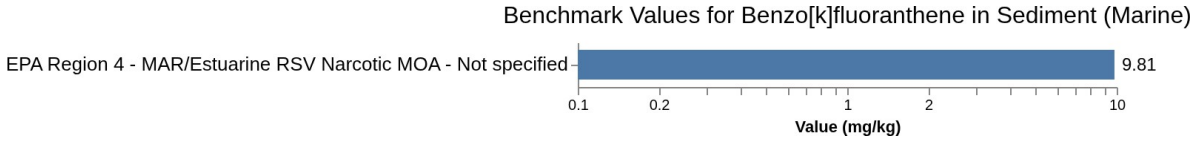


Table 25: Benchmark Values for Benzofluoranthenes, total in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
56832−73−6	Washington	Marine Sediment Cleanup Objective	Not specified	2.3	34
56832−73−6	Washington	Marine Sediment Cleanup Screening Level	Not specified	4.5	34

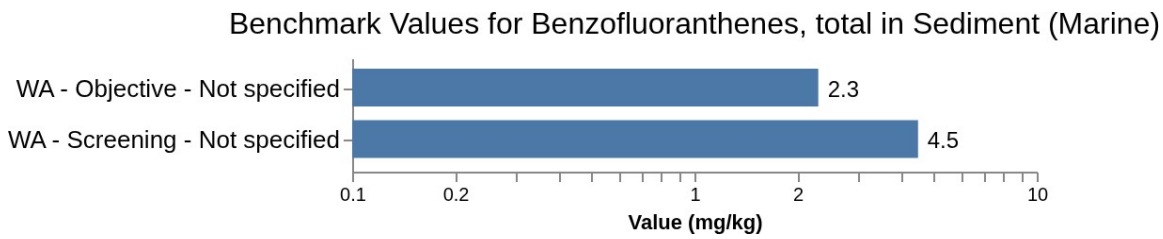


Table 26: Benchmark Values for Benzoic Acid in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
65−85−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.00
65−85−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.65
65−85−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.65
65−85−0	EPA Region 6	Sediment Saltwater	Not specified	0.65
65−85−0	Washington	Marine Sediment Cleanup Objective	Not specified	0.65
65−85−0	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.65

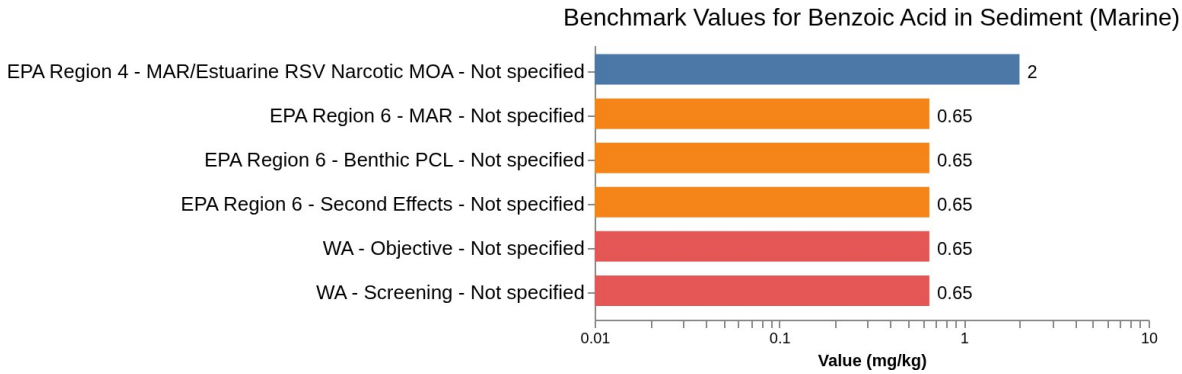


Table 27: Benchmark Values for Benzyl Alcohol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
100−51−6	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.522
100−51−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	6.729
100−51−6	EPA Region 6	Sediment Saltwater	Not specified	0.057
100−51−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.070
100−51−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.073
100−51−6	Washington	Marine Sediment Cleanup Objective	Not specified	0.057
100−51−6	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.073

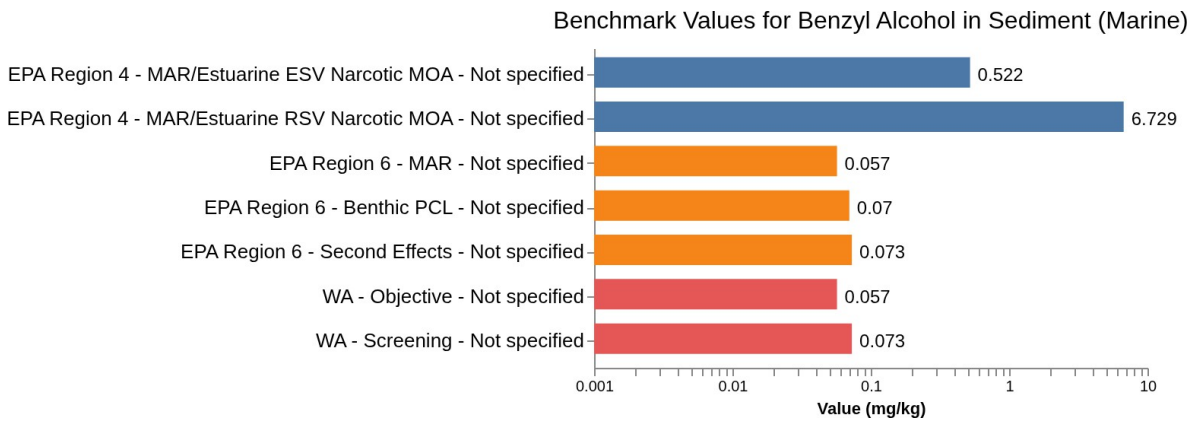


Table 28: Benchmark Values for Biphenthrin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
82657−04−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.00018	
82657−04−3	New York DEC	Saltwater Sediment Class A	Not specified	0.00048	23
82657−04−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.00350	
82657−04−3	New York DEC	Saltwater Sediment Class C	Not specified	0.00350	22

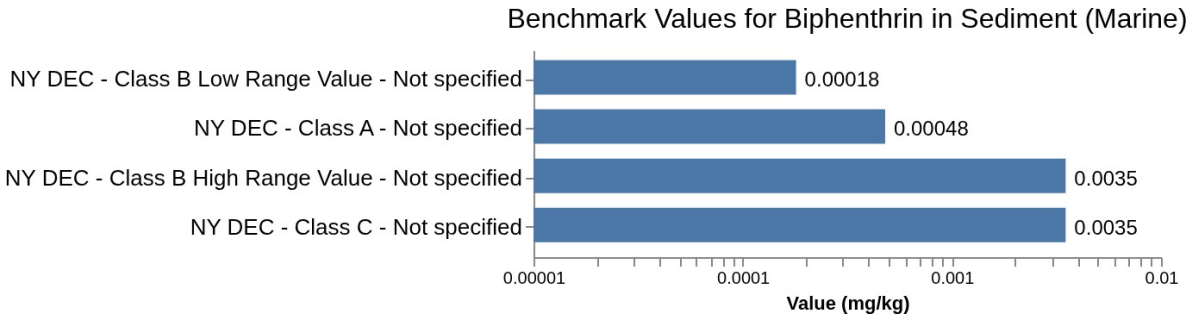


Table 29: Benchmark Values for Biphenyl, 1,1'− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
92−52−4	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.494

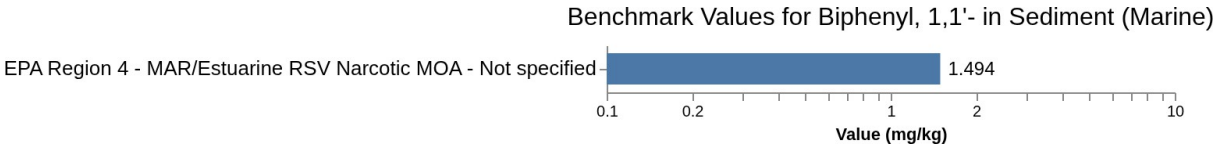


Table 30: Benchmark Values for Bis(2−chloroethyl)ether in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
111−44−4	EPA Region 4	Marine/Estuarine RSV	Not specified	8.163

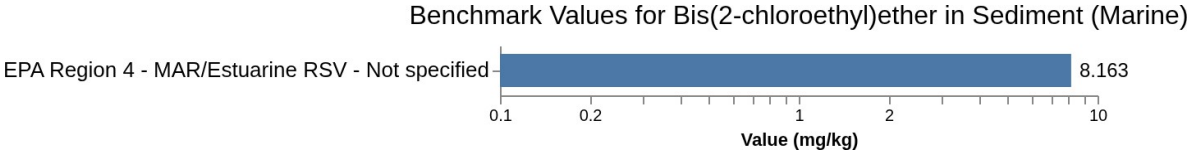


Table 31: Benchmark Values for Bis(2−ethylhexyl)phthalate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
117−81−7	EPA Region 3	BTAG – Marine Sediment	Not specified	0.182	
117−81−7	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.182	7
117−81−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.647	7
117−81−7	EPA Region 6	Sediment Saltwater	Not specified	0.182	
117−81−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.410	
117−81−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.647	
117−81−7	Florida	Marine TEL	Not specified	0.182	
117−81−7	Florida	Marine PEL	Not specified	2.647	
117−81−7	Washington	Marine Sediment Cleanup Objective	Not specified	0.470	34
117−81−7	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.780	34

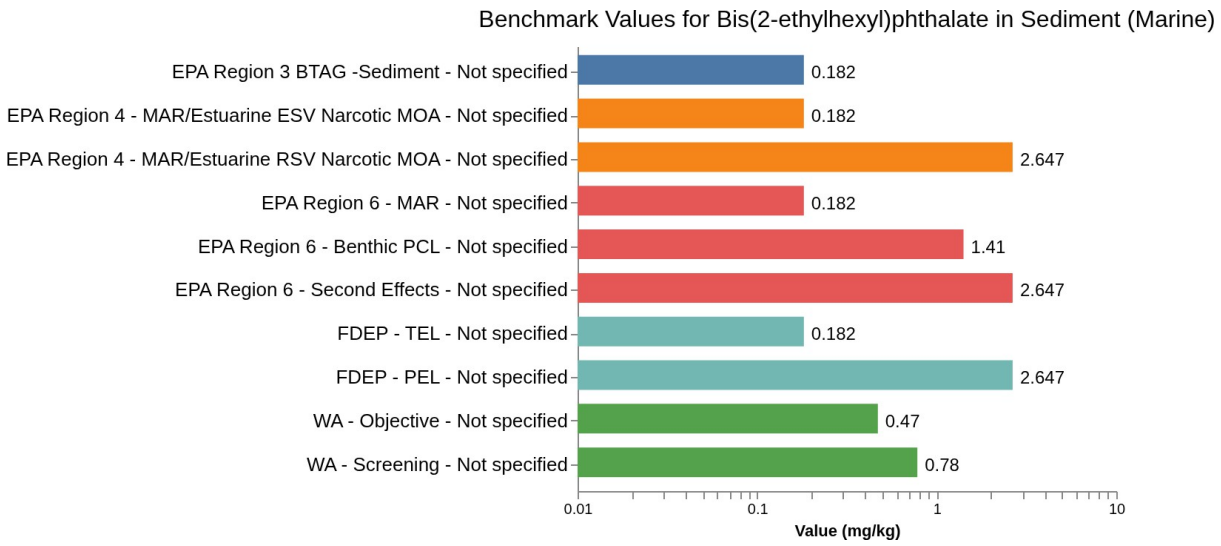


Table 32: Benchmark Values for Bisphenol A in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
80−05−7	ECC Canada	Marine LTC Sediment	Not specified	0.025

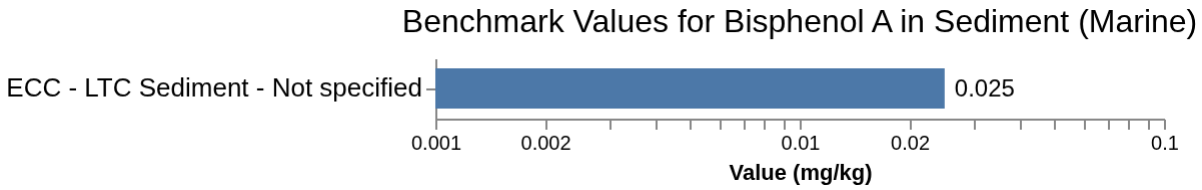


Table 33: Benchmark Values for Bromodichloromethane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−27−4	EPA Region 4	Marine/Estuarine ESV	Not specified	2.172

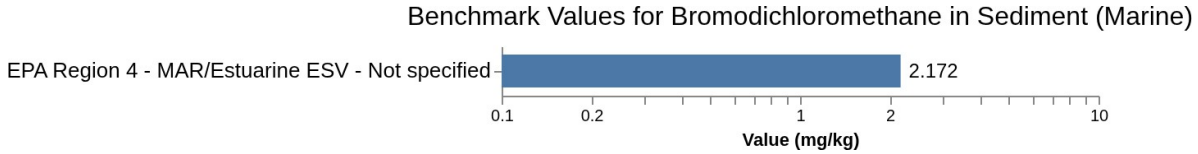


Table 34: Benchmark Values for Bromodiphenyl Ether, p− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
101−55−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.062

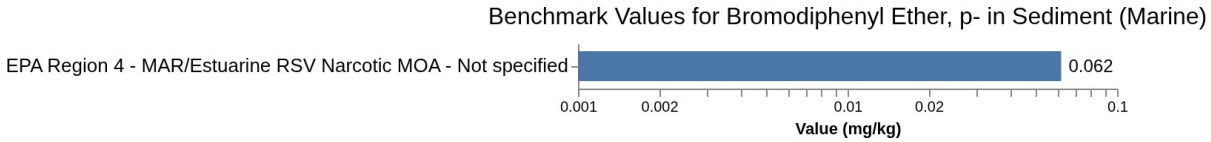


Table 35: Benchmark Values for Bromoform in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−25−2	EPA Region 3	BTAG – Marine Sediment	Not specified	1.310
75−25−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.223
75−25−2	EPA Region 6	Sediment Saltwater	Not specified	1.780
75−25−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	6.230
75−25−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	10.670

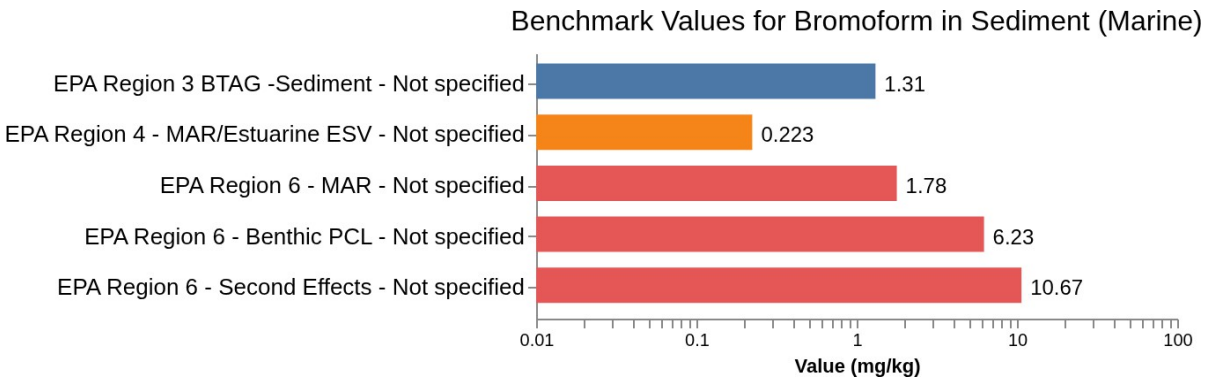


Table 36: Benchmark Values for Bromomethane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
74−83−9	EPA Region 4	Marine/Estuarine ESV	Not specified	0.108
74−83−9	EPA Region 6	Sediment Saltwater	Not specified	0.420
74−83−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.460
74−83−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.490

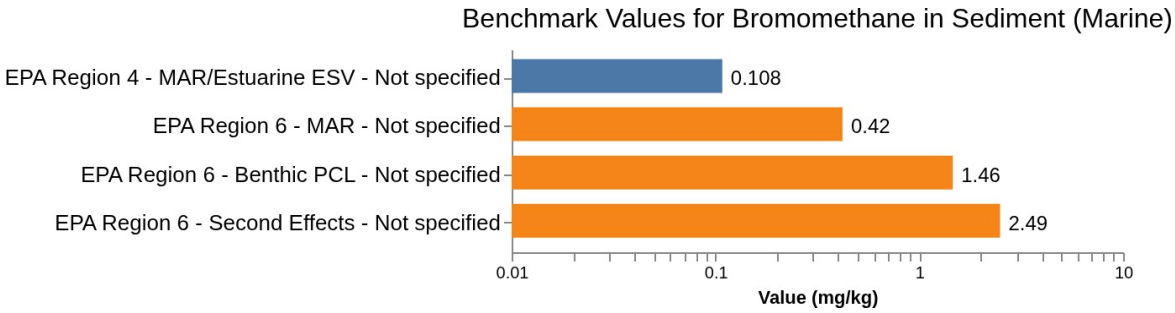


Table 37: Benchmark Values for Butyl Benzyl Phthalate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
85−68−7	EPA Region 3	BTAG – Marine Sediment	Not specified	16.800	
85−68−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.481	
85−68−7	EPA Region 6	Sediment Saltwater	Not specified	0.049	
85−68−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.340	
85−68−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.640	
85−68−7	Washington	Marine Sediment Cleanup Objective	Not specified	0.049	34
85−68−7	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.640	34

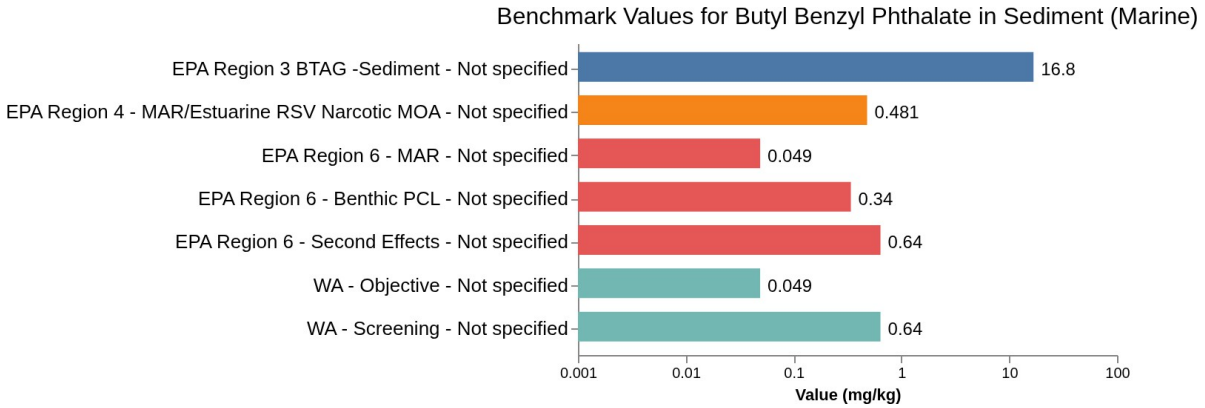


Table 38: Benchmark Values for Cadmium (Diet) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−43−9	Canada	Sediment Marine ISQG	Not specified	0.700	
7440−43−9	Canada	Sediment Marine PEL	Not specified	4.200	
7440−43−9	EPA Region 3	BTAG – Marine Sediment	Not specified	0.680	
7440−43−9	EPA Region 4	Marine/Estuarine ESV	Not specified	0.680	
7440−43−9	EPA Region 4	Marine/Estuarine RSV	Not specified	4.210	
7440−43−9	EPA Region 6	Sediment Saltwater	Not specified	1.200	
7440−43−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.400	
7440−43−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	9.600	
7440−43−9	Florida	Marine TEL	Not specified	0.676	
7440−43−9	Florida	Marine PEL	Not specified	4.210	
7440−43−9	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.200	
7440−43−9	New York DEC	Saltwater Sediment Class A	Not specified	1.200	23
7440−43−9	New York DEC	Saltwater Sediment Class C	Not specified	9.600	22
7440−43−9	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	9.600	
7440−43−9	Washington	Marine Sediment Cleanup Objective	Not specified	5.100	
7440−43−9	Washington	Marine Sediment Cleanup Screening Level	Not specified	6.700	

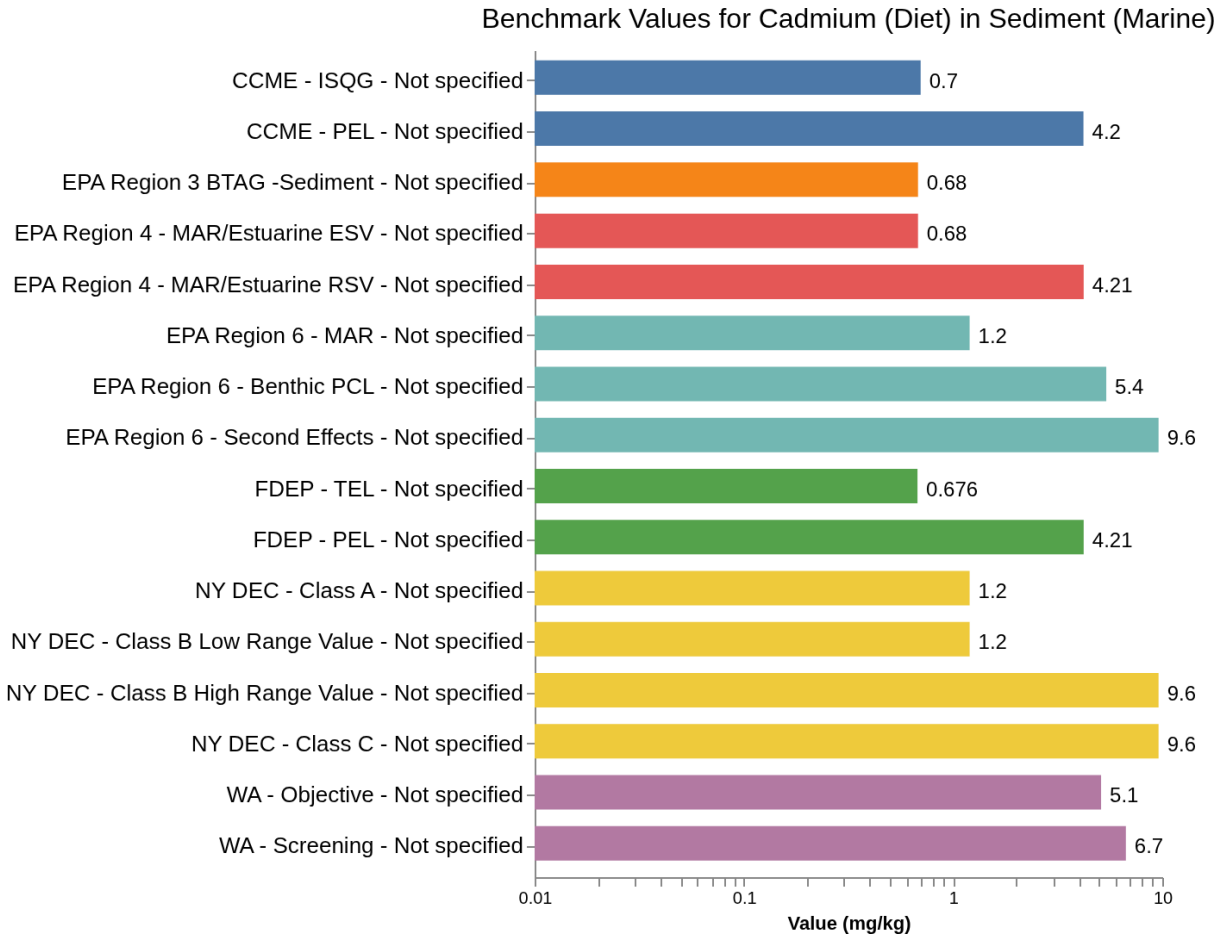


Table 39: Benchmark Values for Captan in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
133−06−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.051

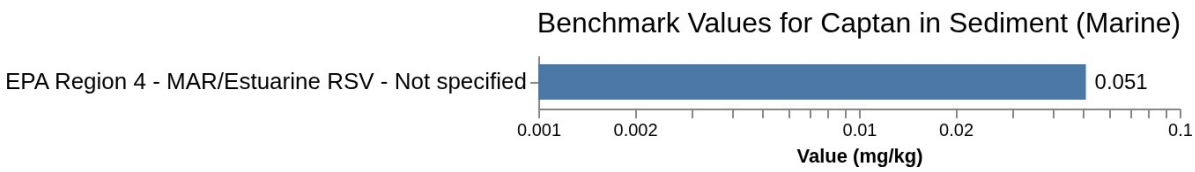


Table 40: Benchmark Values for Carbaryl in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
63−25−2	EPA Region 3	BTAG − Marine Sediment	Not specified	0.000669	
63−25−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.000500	
63−25−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.001000	28
63−25−2	New York DEC	Saltwater Sediment Class A	Not specified	0.001000	23
63−25−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.001000	
63−25−2	New York DEC	Saltwater Sediment Class C	Not specified	0.005000	22
63−25−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.005000	

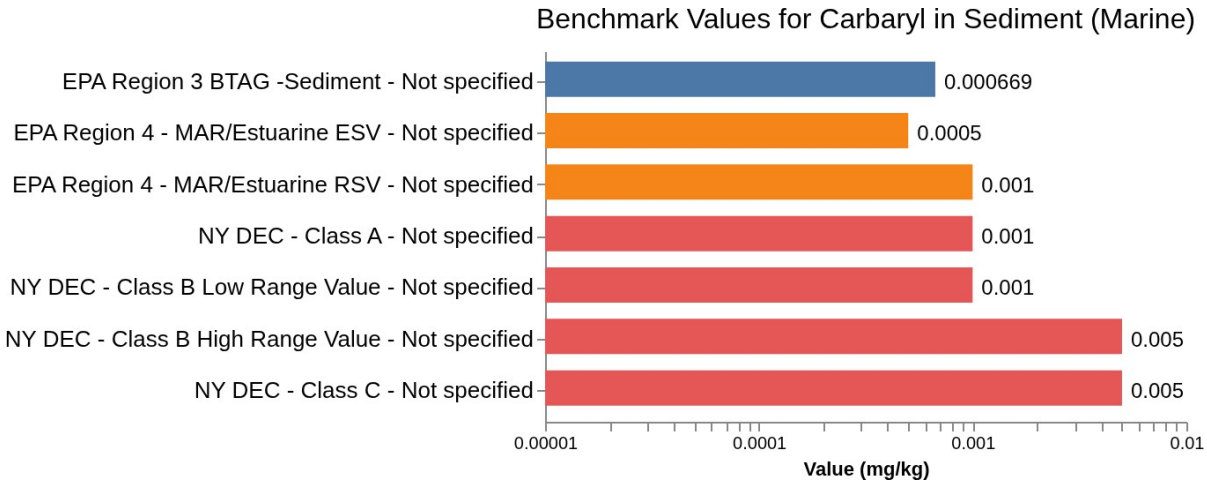


Table 41: Benchmark Values for Carbazole in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
86−74−8	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	1.928
86−74−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.561

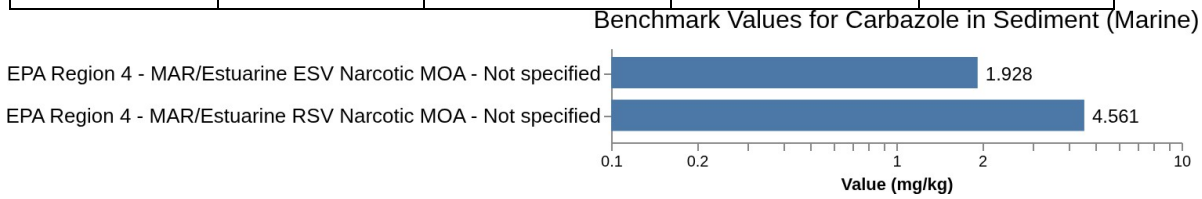


Table 42: Benchmark Values for Carbofuran in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
1563−66−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0004
1563−66−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0200

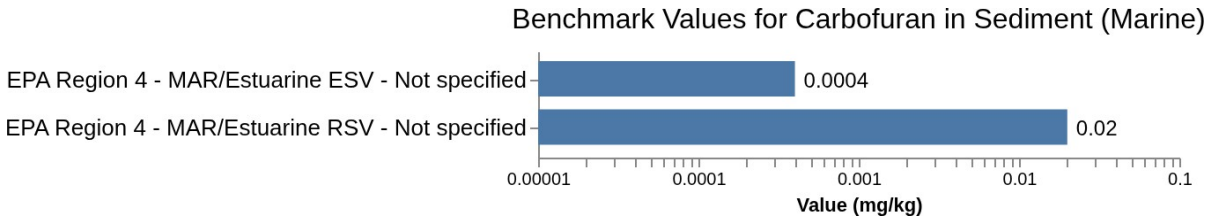


Table 43: Benchmark Values for Carbon Disulfide in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−15−0	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.131
75−15−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.580

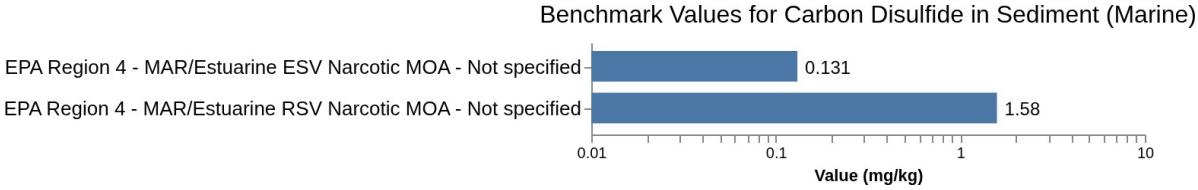


Table 44: Benchmark Values for Carbon Tetrachloride in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
56−23−5	EPA Region 3	BTAG − Marine Sediment	Not specified	7.2400
56−23−5	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0033
56−23−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.7060
56−23−5	EPA Region 6	Sediment Saltwater	Not specified	12.2500
56−23−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	24.5000
56−23−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	36.7400

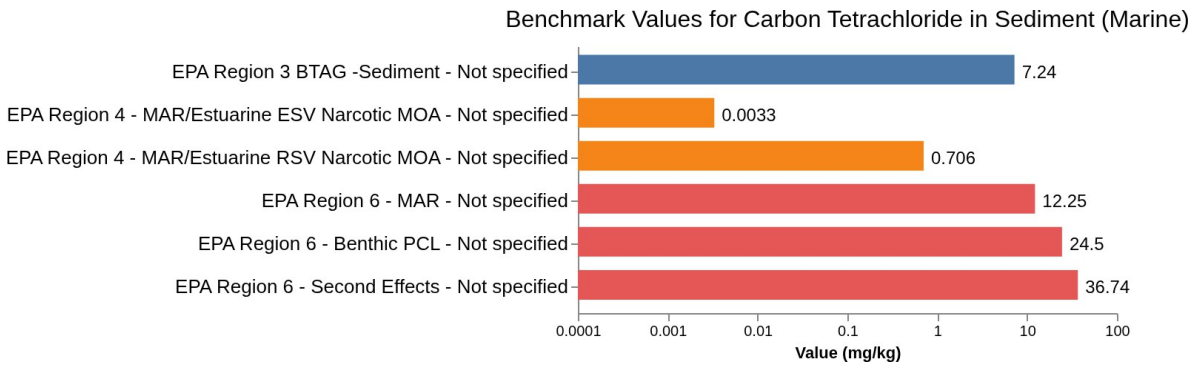


Table 45: Benchmark Values for Chlordane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
57−74−9	Canada	Sediment Marine ISQG	Not specified	0.00226	
57−74−9	Canada	Sediment Marine PEL	Not specified	0.00479	
57−74−9	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00226	
57−74−9	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.00270	7, 28
57−74−9	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.00500	7, 28
57−74−9	EPA Region 6	Sediment Saltwater	Not specified	0.00226	
57−74−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.00350	
57−74−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.00479	
57−74−9	Florida	Marine TEL	Not specified	0.00226	
57−74−9	Florida	Marine PEL	Not specified	0.00479	
57−74−9	New York DEC	Saltwater Sediment Class A	Not specified	0.06300	23
57−74−9	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.06300	
57−74−9	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.40000	
57−74−9	New York DEC	Saltwater Sediment Class C	Not specified	1.40000	22

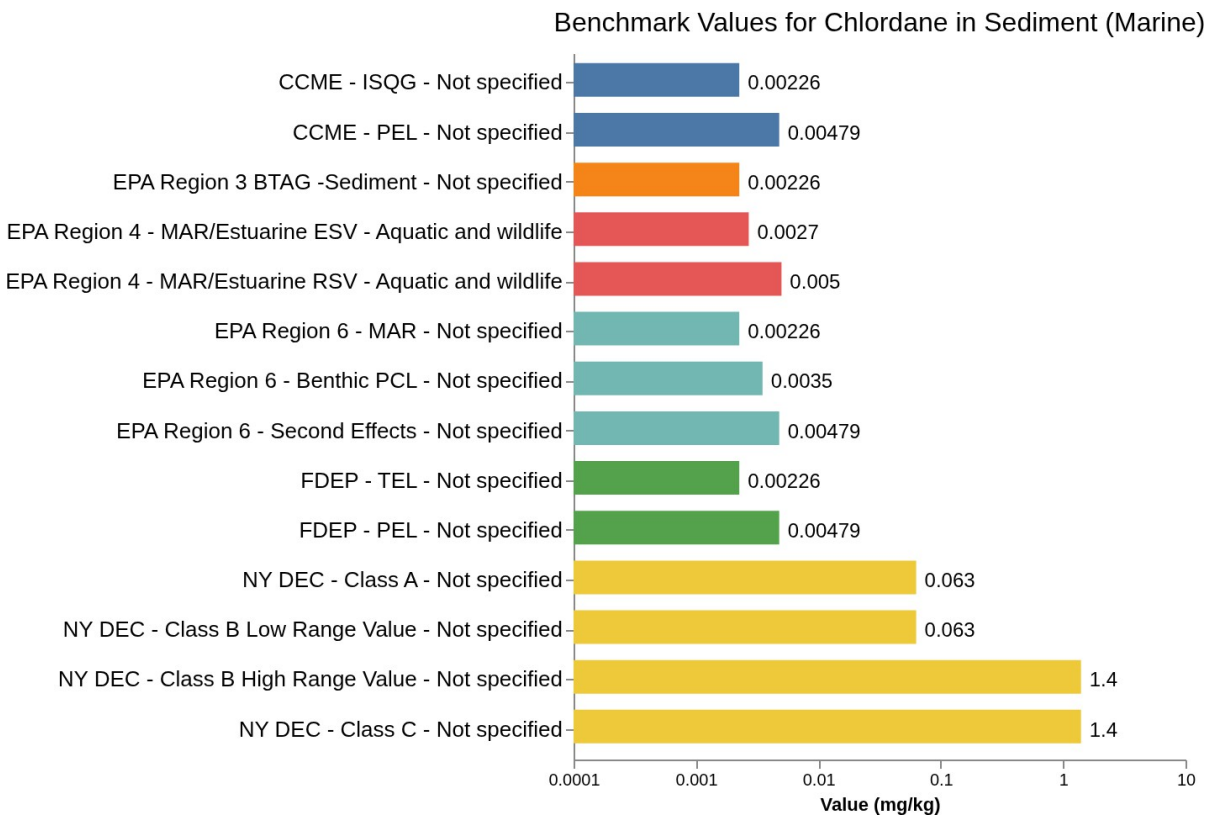


Table 46: Benchmark Values for Chloroaniline, p− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
106−47−8	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0009
106−47−8	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0210

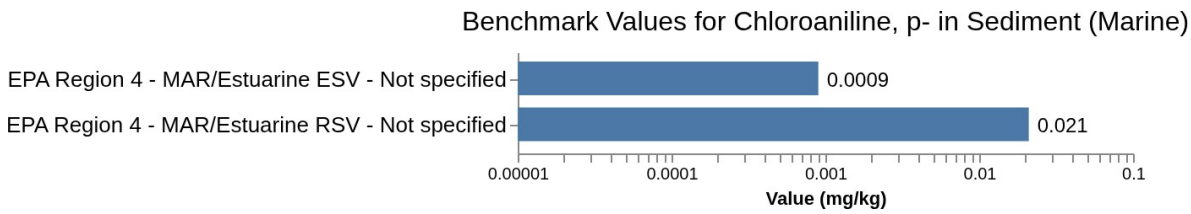


Table 47: Benchmark Values for Chlorobenzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
108−90−7	EPA Region 3	BTAG − Marine Sediment	Not specified	0.162	
108−90−7	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.066	
108−90−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.939	
108−90−7	EPA Region 6	Sediment Saltwater	Not specified	2.730	
108−90−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.460	
108−90−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	8.180	
108−90−7	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.660	
108−90−7	New York DEC	Saltwater Sediment Class A	Not specified	0.660	23
108−90−7	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	4.600	
108−90−7	New York DEC	Saltwater Sediment Class C	Not specified	4.600	22

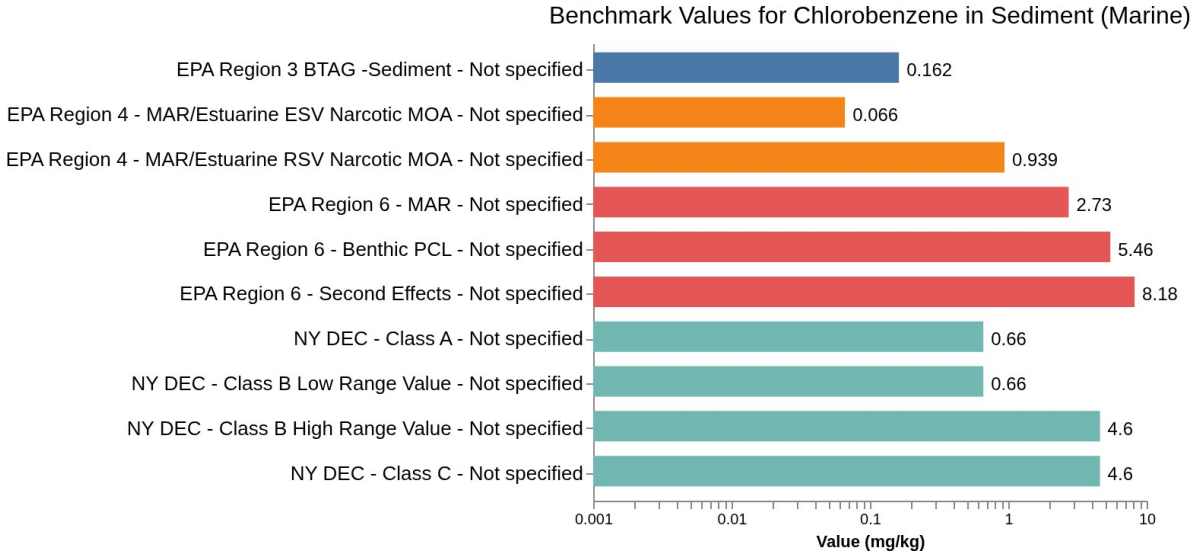


Table 48: Benchmark Values for Chloroform in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
67−66−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.291
67−66−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	3.352
67−66−3	EPA Region 6	Sediment Saltwater	Not specified	2.950
67−66−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.910
67−66−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	8.860

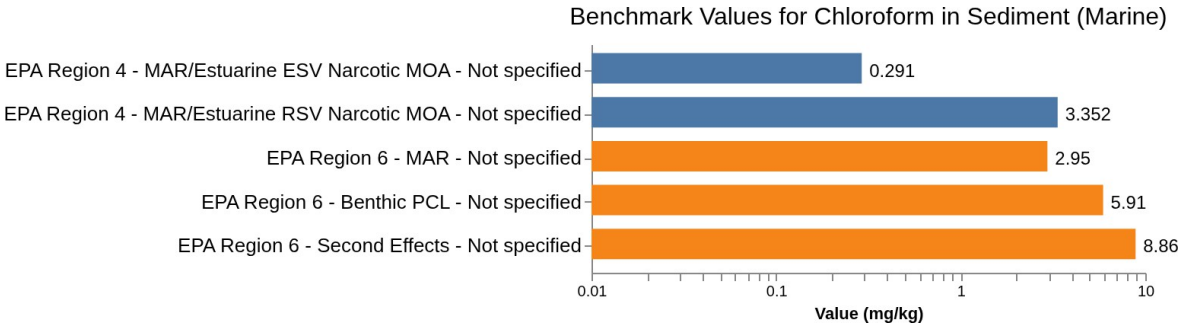


Table 49: Benchmark Values for Chloromethane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
74−87−3	EPA Region 6	Sediment Saltwater	Not specified	8.74
74−87−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	30.59
74−87−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	52.43

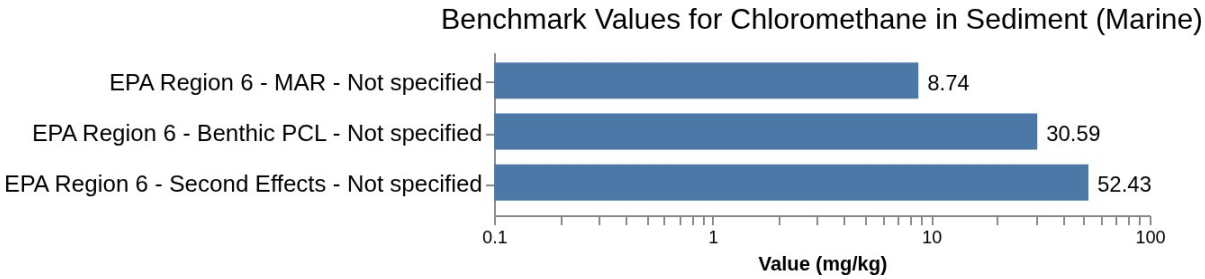


Table 50: Benchmark Values for Chlorophenol, 2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
95−57−8	EPA Region 3	BTAG − Marine Sediment	Not specified	0.344
95−57−8	EPA Region 4	Marine/Estuarine ESV	Not specified	0.885
95−57−8	EPA Region 4	Marine/Estuarine RSV	Not specified	2.302

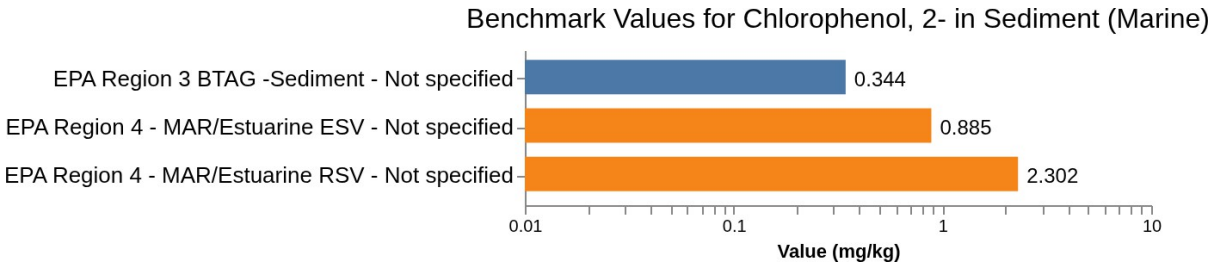


Table 51: Benchmark Values for Chlorothalonil in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1897−45−6	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0039	
1897−45−6	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0040	28
1897−45−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.0010	
1897−45−6	New York DEC	Saltwater Sediment Class A	Not specified	0.0010	23
1897−45−6	New York DEC	Saltwater Sediment Class C	Not specified	0.0040	22
1897−45−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.0040	

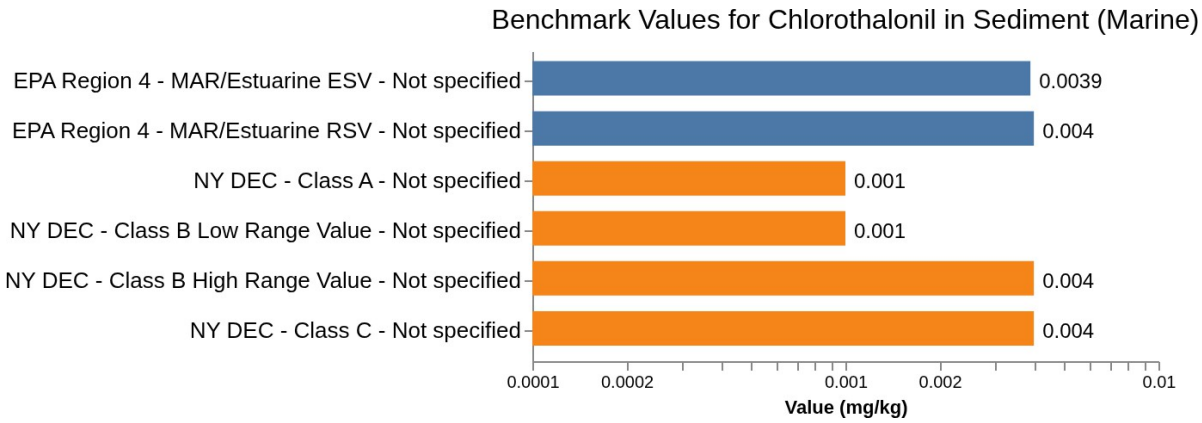


Table 52: Benchmark Values for Chlorpyrifos in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
2921−88−2	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0083	
2921−88−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0004	
2921−88−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0080	28
2921−88−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.0080	
2921−88−2	New York DEC	Saltwater Sediment Class A	Not specified	0.0080	23
2921−88−2	New York DEC	Saltwater Sediment Class C	Not specified	0.0170	22
2921−88−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.0170	

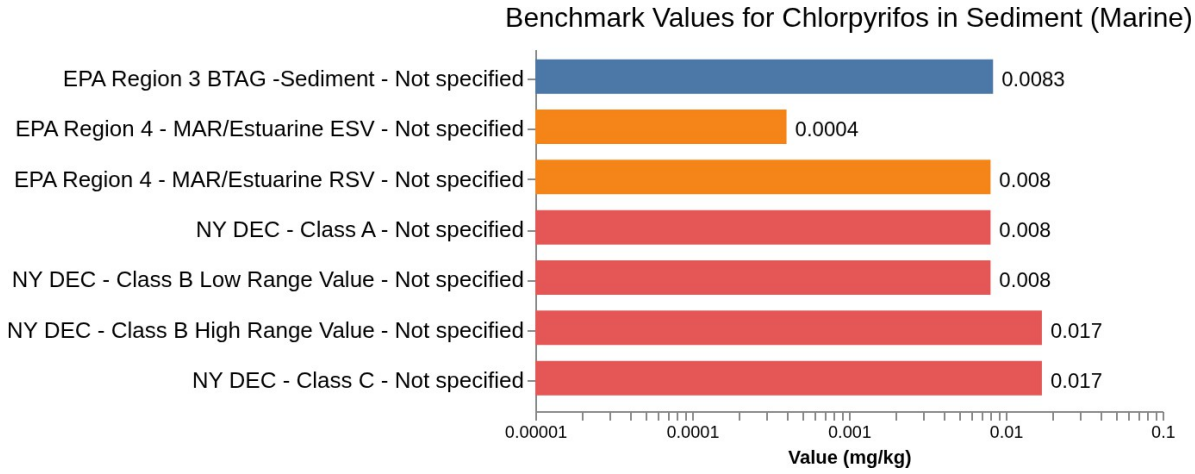


Table 53: Benchmark Values for Chromium, Total in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−47−3	Canada	Sediment Marine ISQG	Not specified	52.3	
7440−47−3	Canada	Sediment Marine PEL	Not specified	160.0	
7440−47−3	EPA Region 3	BTAG − Marine Sediment	Not specified	52.3	
7440−47−3	EPA Region 4	Marine/Estuarine ESV	Not specified	52.3	
7440−47−3	EPA Region 4	Marine/Estuarine RSV	Not specified	160.0	
7440−47−3	EPA Region 6	Sediment Saltwater	Not specified	81.0	
7440−47−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	225.5	
7440−47−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	370.0	
7440−47−3	Florida	Marine TEL	Not specified	52.3	
7440−47−3	Florida	Marine PEL	Not specified	160.0	
7440−47−3	New York DEC	Saltwater Sediment Class A	Not specified	81.0	23
7440−47−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	81.0	
7440−47−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	370.0	
7440−47−3	New York DEC	Saltwater Sediment Class C	Not specified	370.0	22
7440−47−3	Washington	Marine Sediment Cleanup Objective	Not specified	260.0	
7440−47−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	270.0	

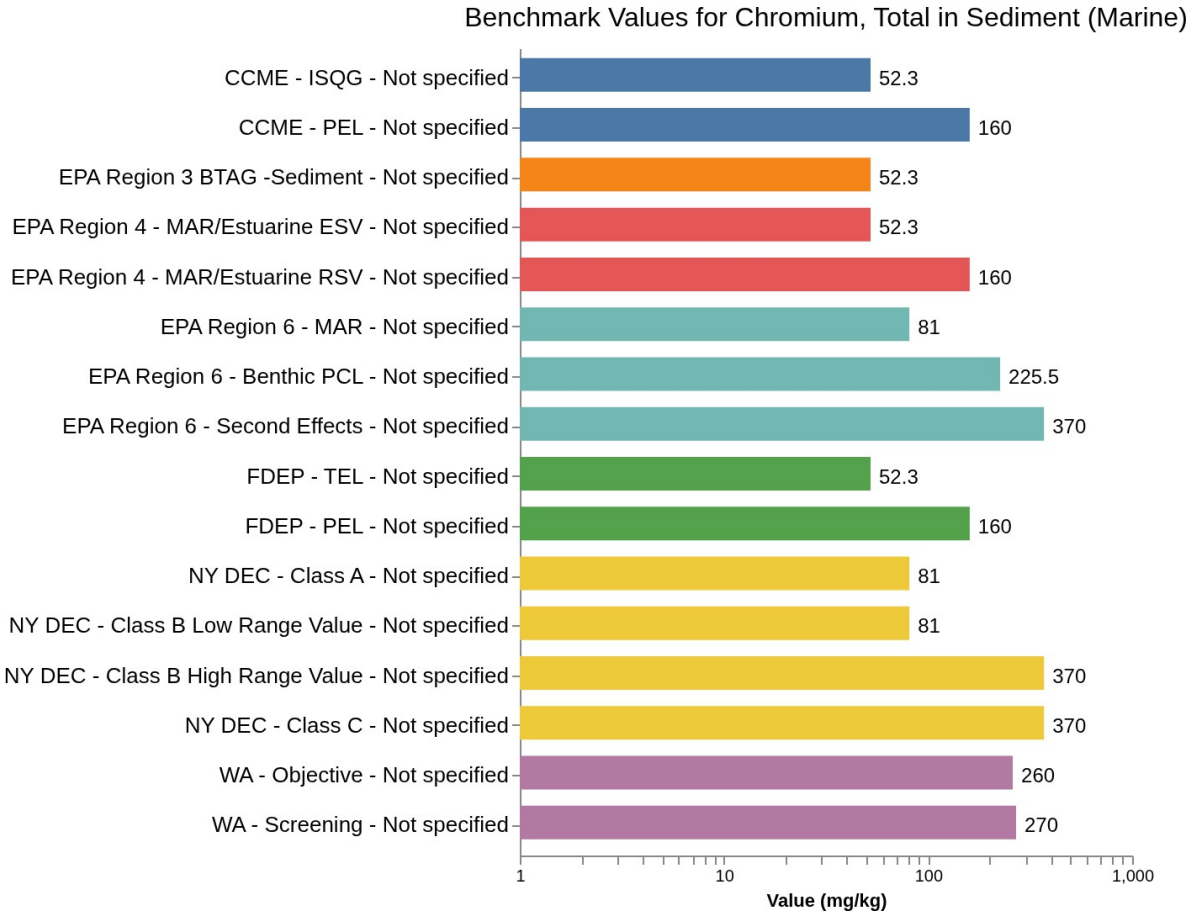


Table 54: Benchmark Values for Chrysene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
218−01−9	Canada	Sediment Marine ISQG	Not specified	0.108	
218−01−9	Canada	Sediment Marine PEL	Not specified	0.846	
218−01−9	EPA Region 3	BTAG − Marine Sediment	Not specified	0.108	
218−01−9	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.108	7
218−01−9	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	8.440	7
218−01−9	EPA Region 6	Sediment Saltwater	Not specified	0.384	
218−01−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.590	
218−01−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.800	
218−01−9	Florida	Marine TEL	Not specified	0.108	
218−01−9	Florida	Marine PEL	Not specified	0.846	
218−01−9	Washington	Marine Sediment Cleanup Objective	Not specified	1.100	
218−01−9	Washington	Marine Sediment Cleanup Screening Level	Not specified	4.600	34

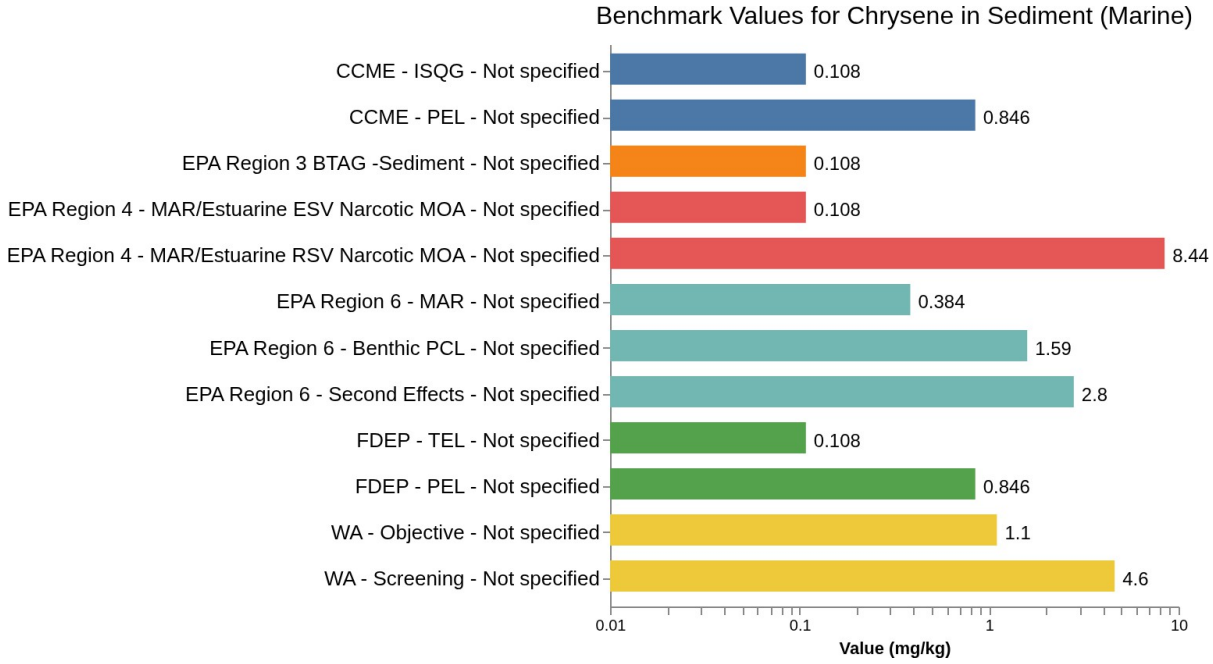


Table 55: Benchmark Values for Copper in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−50−8	Canada	Sediment Marine ISQG	Not specified	18.7	
7440−50−8	Canada	Sediment Marine PEL	Not specified	108.0	
7440−50−8	EPA Region 3	BTAG − Marine Sediment	Not specified	18.7	
7440−50−8	EPA Region 4	Marine/Estuarine ESV	Not specified	18.7	
7440−50−8	EPA Region 4	Marine/Estuarine RSV	Not specified	108.0	
7440−50−8	EPA Region 6	Sediment Saltwater	Not specified	34.0	
7440−50−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	152.0	
7440−50−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	270.0	
7440−50−8	Florida	Marine TEL	Not specified	18.7	
7440−50−8	Florida	Marine PEL	Not specified	108.0	
7440−50−8	New York DEC	Saltwater Sediment Class A	Not specified	34.0	23
7440−50−8	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	34.0	
7440−50−8	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	270.0	
7440−50−8	New York DEC	Saltwater Sediment Class C	Not specified	270.0	22
7440−50−8	Washington	Marine Sediment Cleanup Objective	Not specified	390.0	
7440−50−8	Washington	Marine Sediment Cleanup Screening Level	Not specified	390.0	

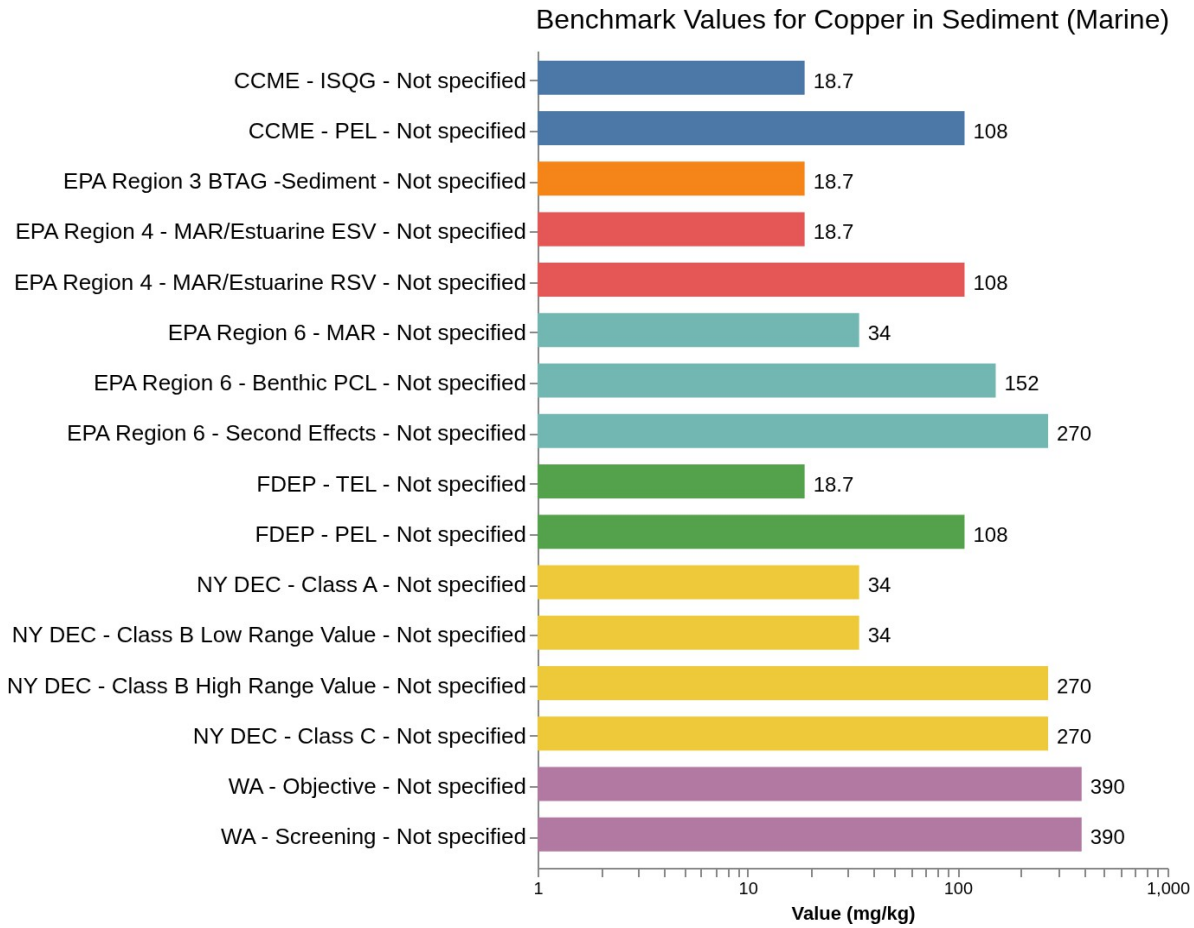


Table 56: Benchmark Values for Cresol, m− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
108−39−4	EPA Region 4	Marine/Estuarine RSV	Not specified	1.792

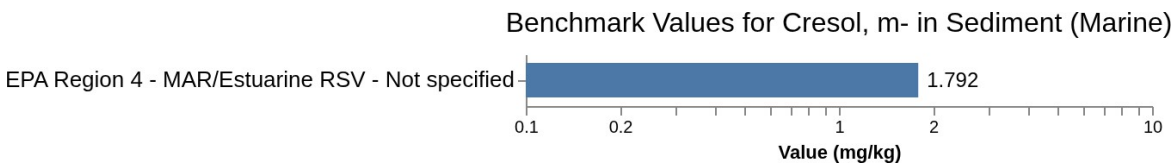


Table 57: Benchmark Values for Cresol, o− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
95−48−7	EPA Region 4	Marine/Estuarine ESV	Not specified	0.063	28
95−48−7	EPA Region 4	Marine/Estuarine RSV	Not specified	1.773	
95−48−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.063	
95−48−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.063	
95−48−7	EPA Region 6	Sediment Saltwater	Not specified	0.063	
95−48−7	Washington	Marine Sediment Cleanup Objective	Not specified	0.063	
95−48−7	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.063	

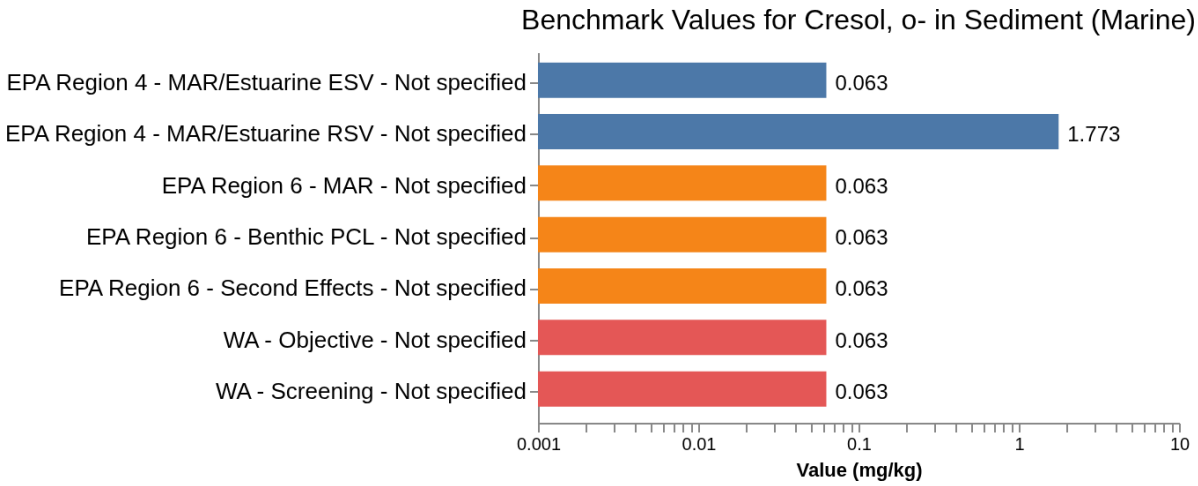


Table 58: Benchmark Values for Cresol, p− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
106−44−5	EPA Region 4	Marine/Estuarine ESV	Not specified	0.670	28
106−44−5	EPA Region 4	Marine/Estuarine RSV	Not specified	0.714	
106−44−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.670	
106−44−5	EPA Region 6	Sediment Saltwater	Not specified	0.670	
106−44−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.670	
106−44−5	Washington	Marine Sediment Cleanup Objective	Not specified	0.670	
106−44−5	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.670	

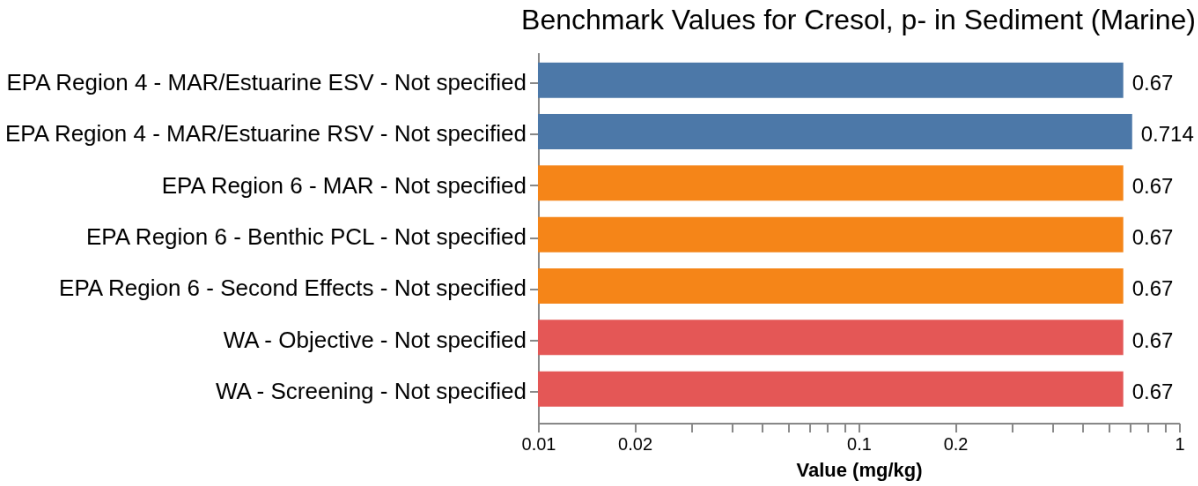


Table 59: Benchmark Values for Cresol, p−chloro−m− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
59−50−7	EPA Region 4	Marine/Estuarine ESV	Not specified	1.257
59−50−7	EPA Region 4	Marine/Estuarine RSV	Not specified	2.035

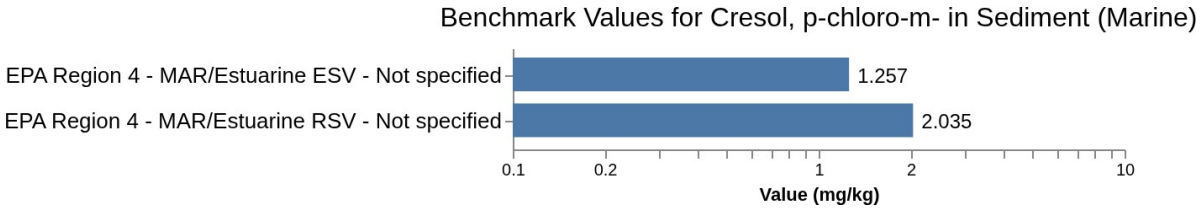


Table 60: Benchmark Values for Cumene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
98−82−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.713

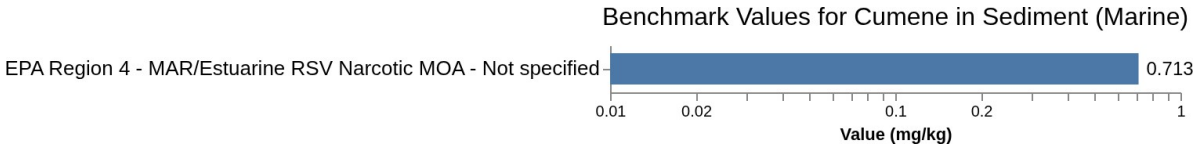


Table 61: Benchmark Values for Cyclohexane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
110−82−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.278

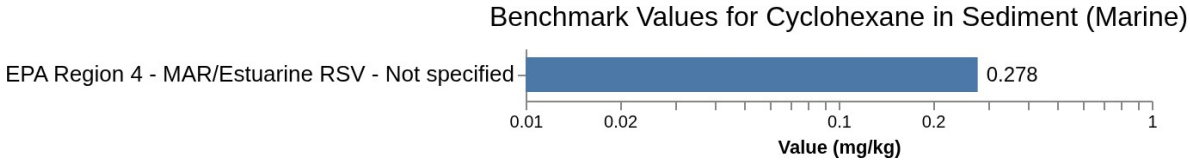


Table 62: Benchmark Values for DDD, Total in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−17−1	EPA Region 4	Marine/Estuarine RSV	Not specified	0.013	6, 10

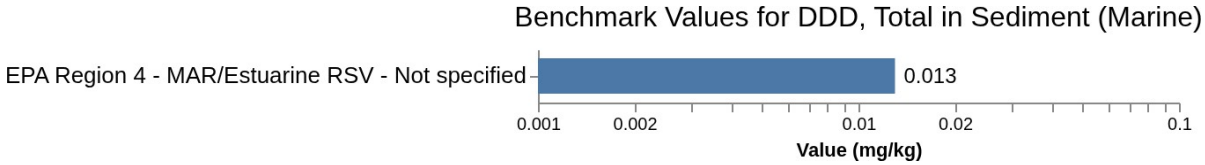


Table 63: Benchmark Values for DDE, Total in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−17−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.013	6, 10

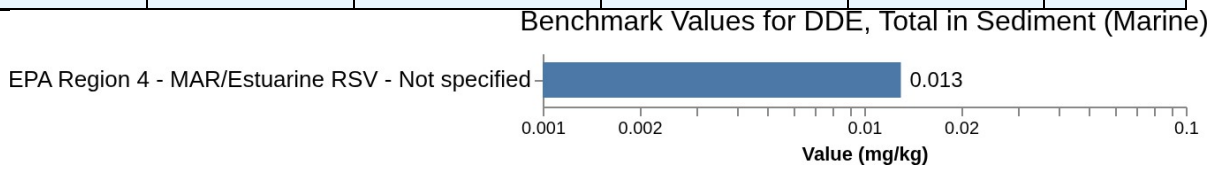


Table 64: Benchmark Values for DDT, o,p'− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
789−02−6	Canada	Sediment Marine ISQG	Not specified	0.00119
789−02−6	Canada	Sediment Marine PEL	Not specified	0.00477

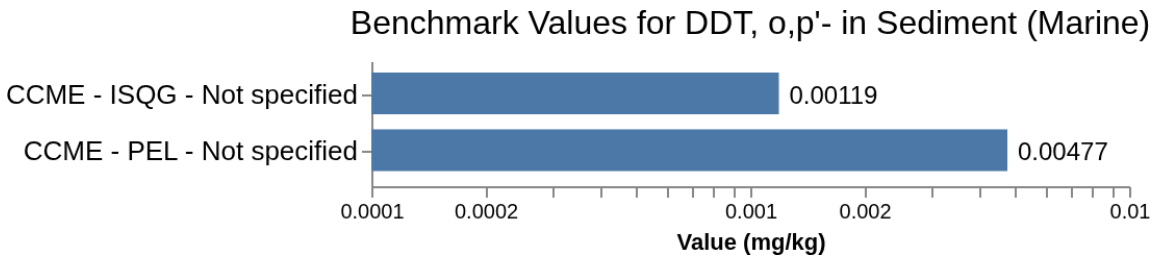


Table 65: Benchmark Values for DDT, Total in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−07−7	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00389	
000000−07−7	EPA Region 4	Marine/Estuarine ESV	Not specified	0.00070	6, 10
000000−07−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.05200	6, 10
000000−07−7	EPA Region 6	Sediment Saltwater	Not specified	0.00389	
000000−07−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.02800	
000000−07−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.05170	
000000−07−7	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.04400	
000000−07−7	New York DEC	Saltwater Sediment Class A	Not specified	0.04400	23
000000−07−7	New York DEC	Saltwater Sediment Class C	Not specified	5.70000	22
000000−07−7	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	5.70000	

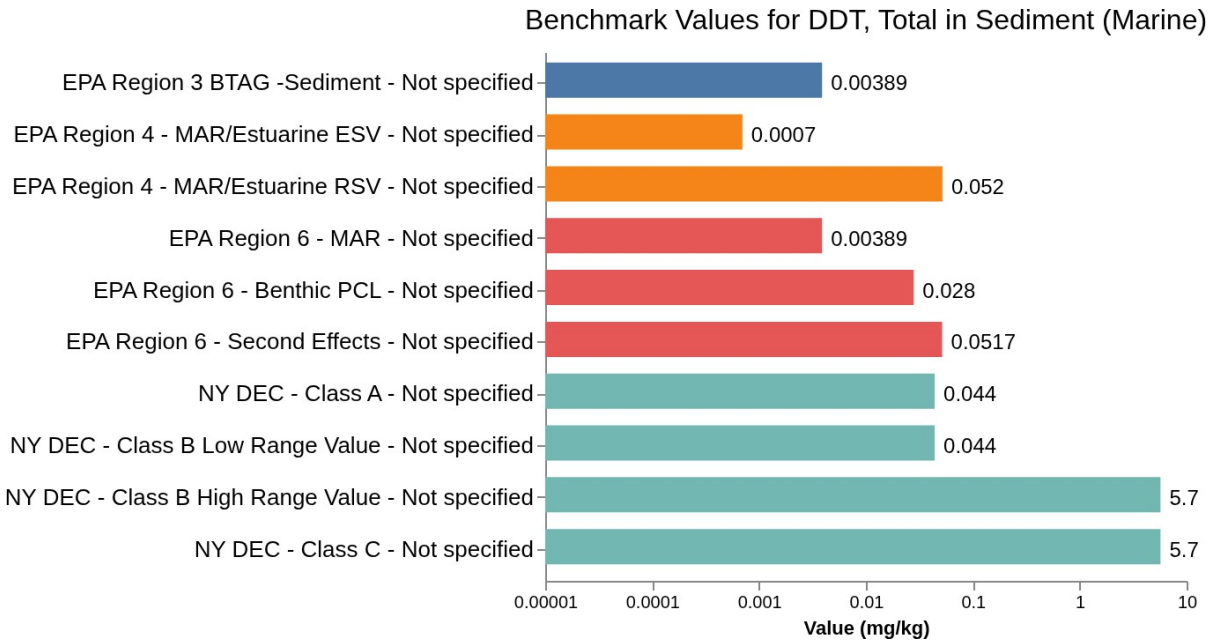


Table 66: Benchmark Values for DDT/DDE/DDD (total) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−05−1	EPA Region 4	Marine/Estuarine RSV	Not specified	0.04400	6, 10
000000−05−1	Florida	Marine TEL	Not specified	0.00389	
000000−05−1	Florida	Marine PEL	Not specified	0.05170	

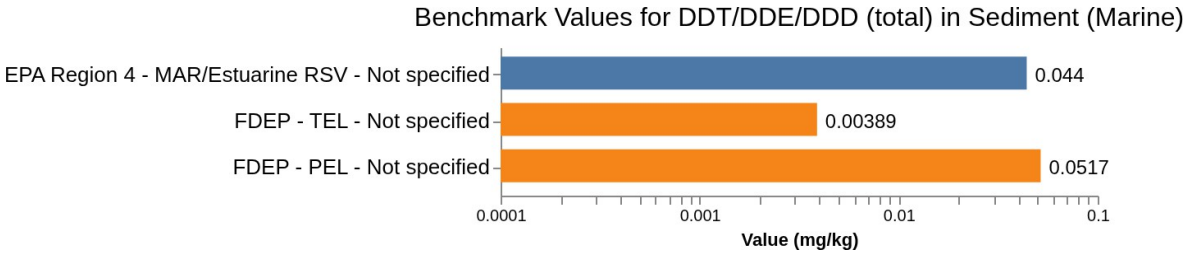


Table 67: Benchmark Values for Decane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
124−18−5	EPA Region 4	Marine/Estuarine RSV	Not specified	0.065

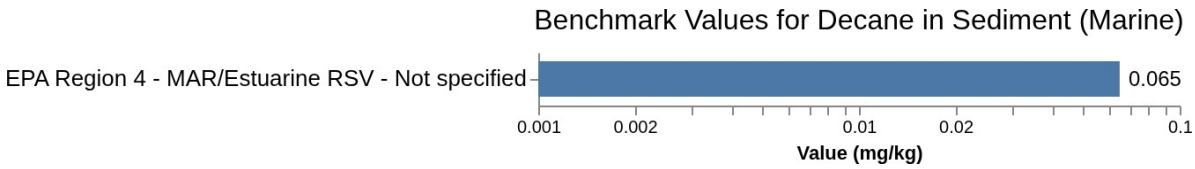


Table 68: Benchmark Values for Demeton, S in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
126−75−0	EPA Region 4	Marine/Estuarine ESV	Not specified	0.00020	
126−75−0	EPA Region 4	Marine/Estuarine RSV	Not specified	0.00035	

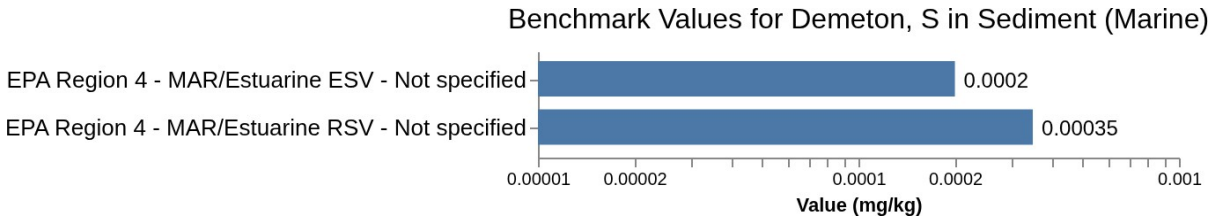


Table 69: Benchmark Values for Diazinon in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
333−41−5	EPA Region 4	Marine/Estuarine ESV	Not specified	0.018	
333−41−5	EPA Region 4	Marine/Estuarine RSV	Not specified	0.091	28
333−41−5	New York DEC	Saltwater Sediment Class A	Not specified	0.091	23
333−41−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.091	22

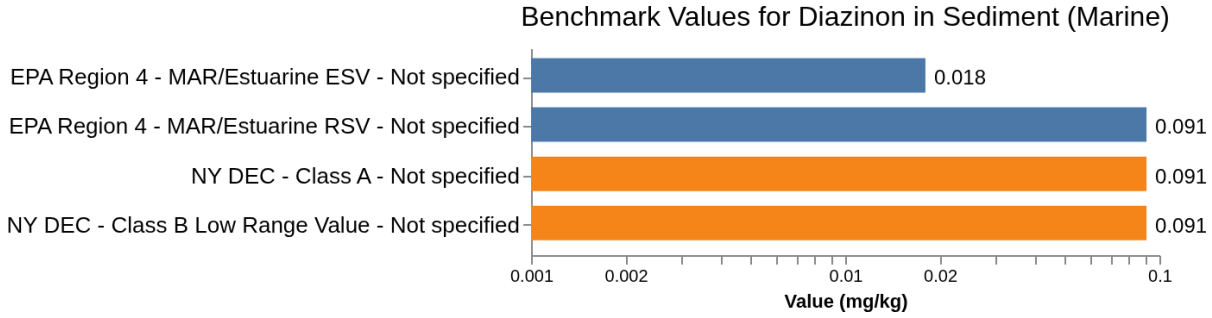


Table 70: Benchmark Values for Dibenz[a,h]anthracene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
53−70−3	Canada	Sediment Marine ISQG	Not specified	0.00622	
53−70−3	Canada	Sediment Marine PEL	Not specified	0.13500	
53−70−3	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00622	
53−70−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.00620	7
53−70−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	11.20000	7
53−70−3	EPA Region 6	Sediment Saltwater	Not specified	0.06340	
53−70−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.16000	
53−70−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.26000	
53−70−3	Florida	Marine TEL	Not specified	0.00622	
53−70−3	Florida	Marine PEL	Not specified	0.13500	
53−70−3	Washington	Marine Sediment Cleanup Objective	Not specified	0.12000	34
53−70−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.33000	34

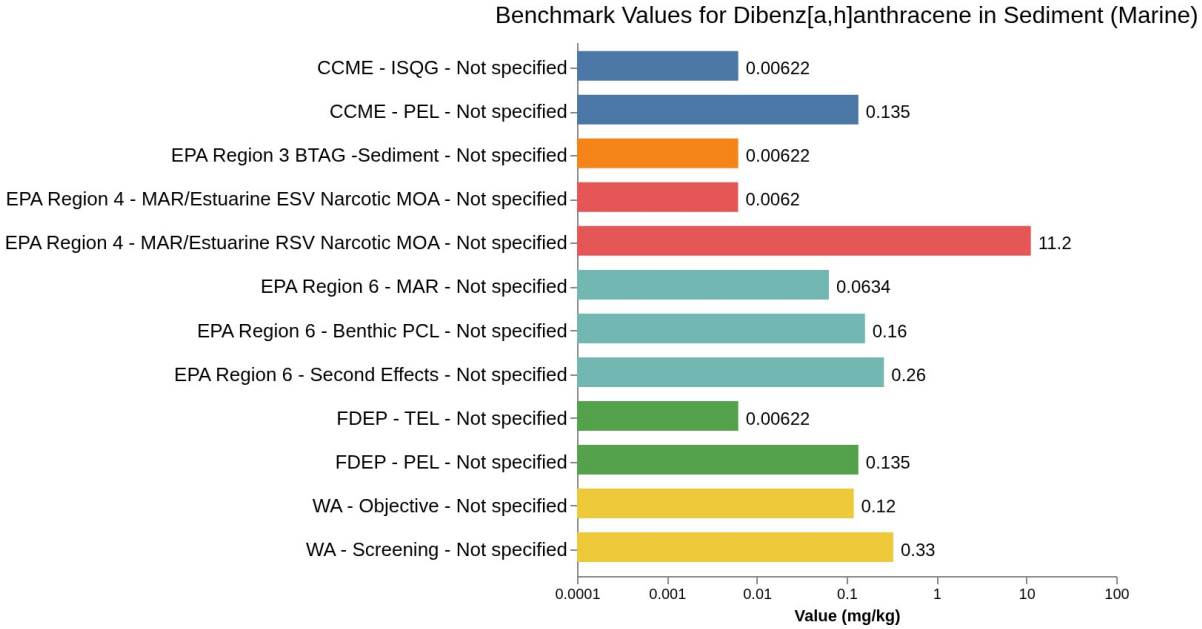


Table 71: Benchmark Values for Dibenzofuran in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
132−64−9	EPA Region 3	BTAG − Marine Sediment	Not specified	7.300	
132−64−9	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.313	
132−64−9	EPA Region 6	Sediment Saltwater	Not specified	0.150	
132−64−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.370	
132−64−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.580	
132−64−9	Washington	Marine Sediment Cleanup Objective	Not specified	0.150	34
132−64−9	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.580	34

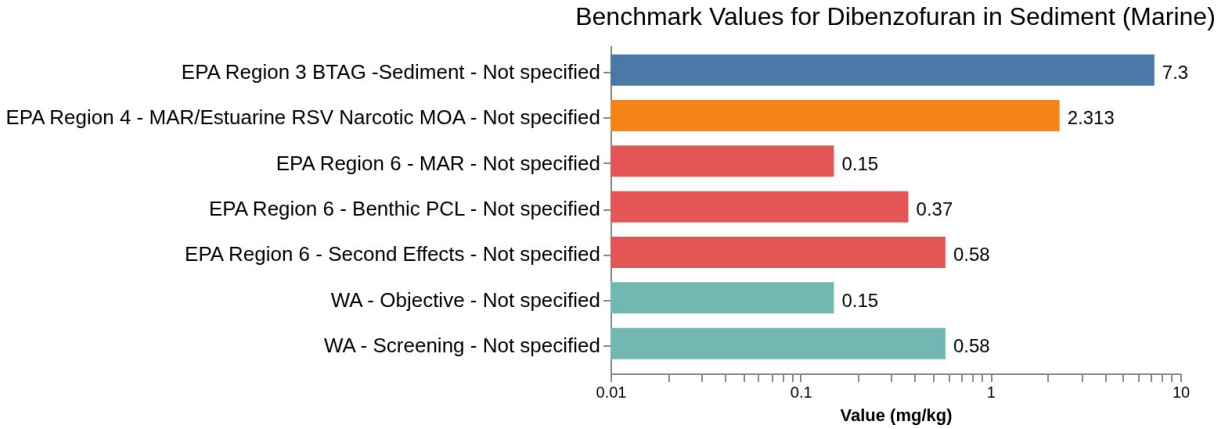


Table 72: Benchmark Values for Dibromo−3−nitrilopropionamide, 2,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
10222−01−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0034
10222−01−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0071

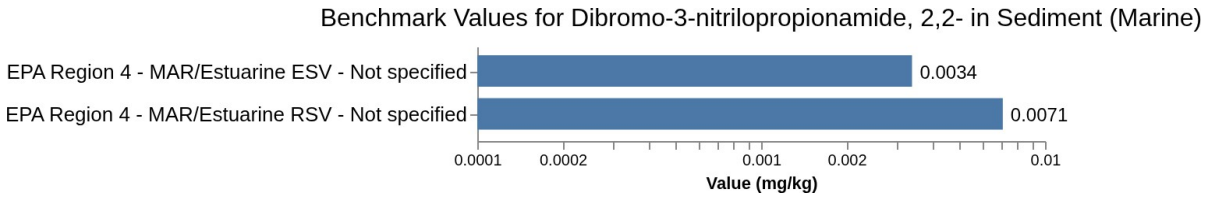


Table 73: Benchmark Values for Dibromochloromethane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
124−48−1	EPA Region 4	Marine/Estuarine ESV	Not specified	0.021

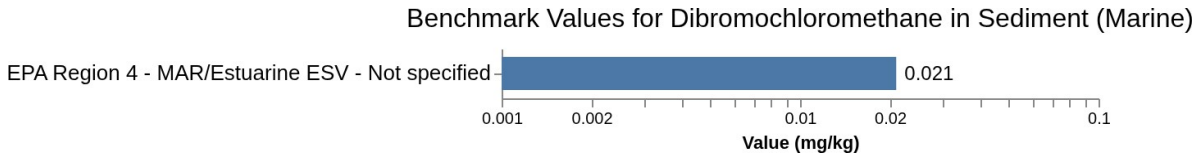


Table 74: Benchmark Values for Dibutyl Phthalate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
84−74−2	EPA Region 3	BTAG − Marine Sediment	Not specified	1.160	
84−74−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.319	
84−74−2	EPA Region 6	Sediment Saltwater	Not specified	2.200	
84−74−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	9.600	
84−74−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	17.000	
84−74−2	Washington	Marine Sediment Cleanup Objective	Not specified	2.200	34
84−74−2	Washington	Marine Sediment Cleanup Screening Level	Not specified	17.000	34

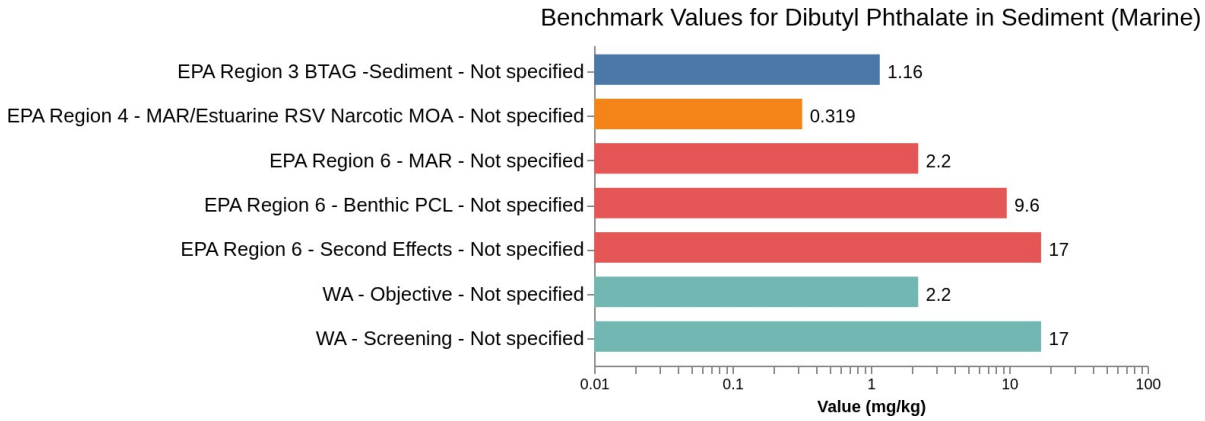


Table 75: Benchmark Values for Dicamba in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1918−00−9	EPA Region 4	Marine/Estuarine RSV	Not specified	0.63	
1918−00−9	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.63	
1918−00−9	New York DEC	Saltwater Sediment Class A	Not specified	0.63	23
1918−00−9	New York DEC	Saltwater Sediment Class C	Not specified	4.20	22
1918−00−9	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	4.20	

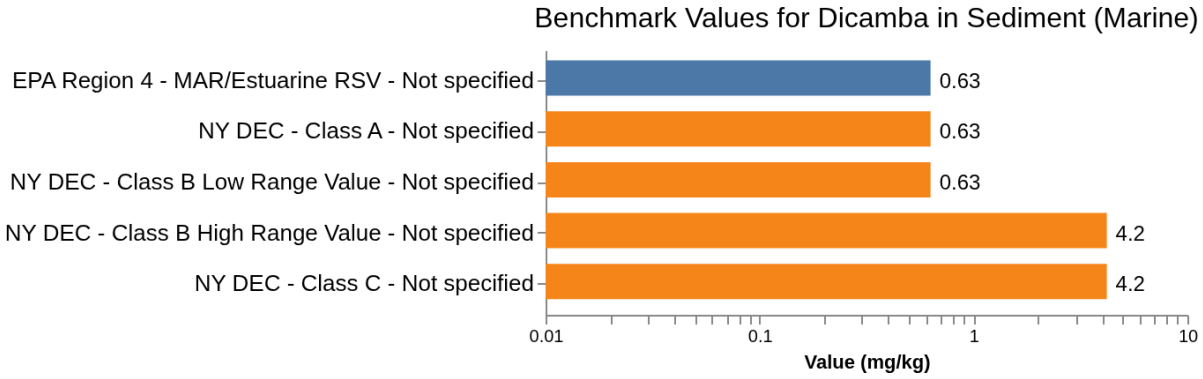


Table 76: Benchmark Values for Dichloroaniline, 2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
554−00−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.032

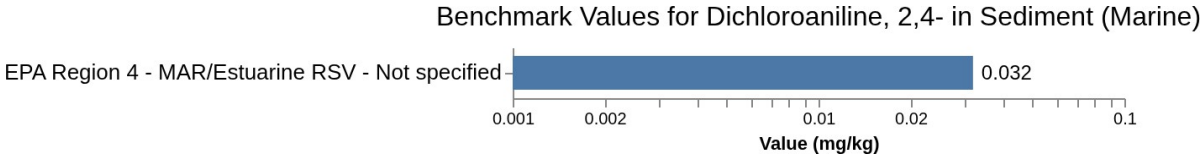


Table 77: Benchmark Values for Dichlorobenzene, 1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
95−50−1	EPA Region 3	BTAG − Marine Sediment	Not specified	0.989	
95−50−1	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.173	
95−50−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.477	
95−50−1	EPA Region 6	Sediment Saltwater	Not specified	0.740	
95−50−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.590	
95−50−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	4.440	
95−50−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.850	
95−50−1	New York DEC	Saltwater Sediment Class A	Not specified	0.850	23
95−50−1	New York DEC	Saltwater Sediment Class C	Not specified	6.100	22
95−50−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	6.100	
95−50−1	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.023	34
95−50−1	Washington	Marine Sediment Cleanup Objective	Not specified	0.023	34

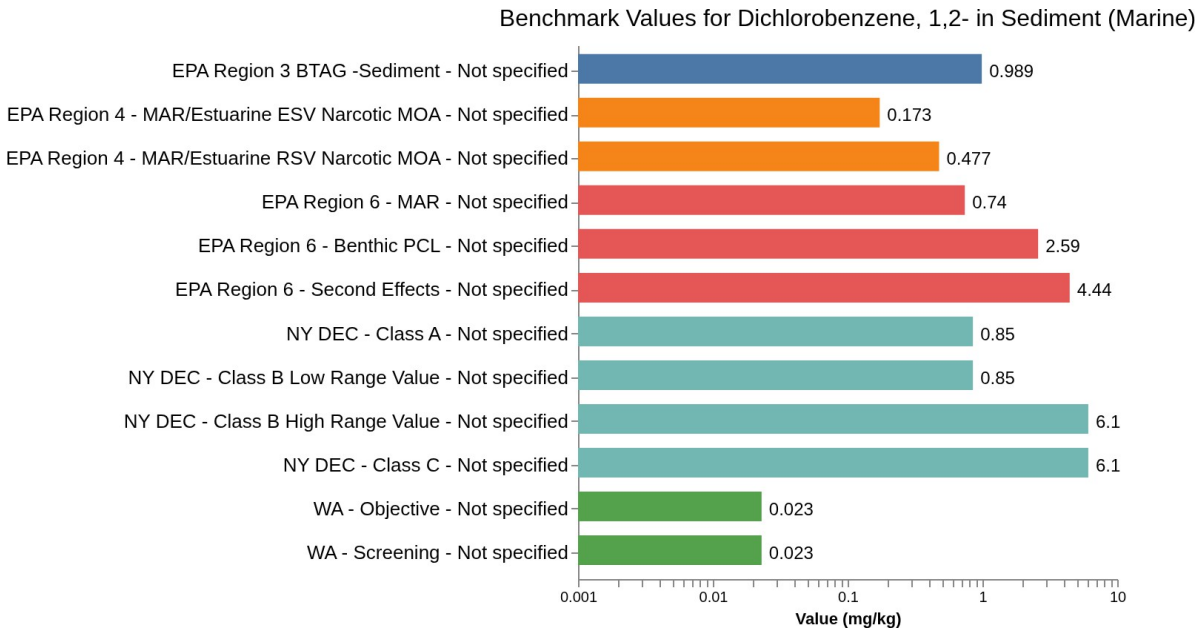


Table 78: Benchmark Values for Dichlorobenzene, 1,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
541−73−1	EPA Region 3	BTAG − Marine Sediment	Not specified	0.842	
541−73−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.468	
541−73−1	EPA Region 6	Sediment Saltwater	Not specified	0.320	
541−73−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.140	
541−73−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.950	
541−73−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	2.100	
541−73−1	New York DEC	Saltwater Sediment Class A	Not specified	2.100	23
541−73−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	7.100	
541−73−1	New York DEC	Saltwater Sediment Class C	Not specified	7.100	22

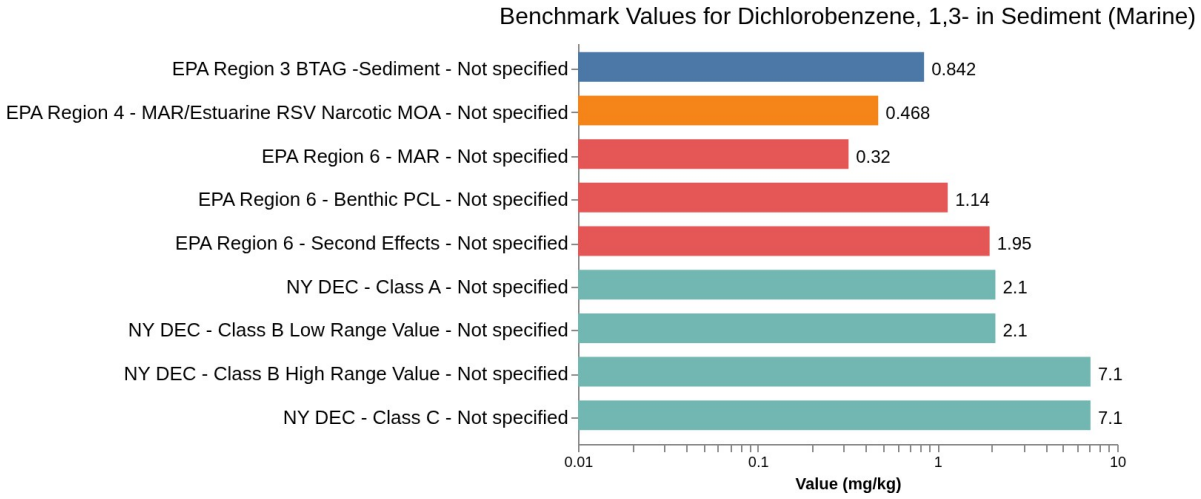


Table 79: Benchmark Values for Dichlorobenzene, 1,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
106−46−7	EPA Region 3	BTAG − Marine Sediment	Not specified	0.460	
106−46−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.468	
106−46−7	EPA Region 6	Sediment Saltwater	Not specified	0.700	
106−46−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.460	
106−46−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	4.210	
106−46−7	New York DEC	Saltwater Sediment Class A	Not specified	1.200	23
106−46−7	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.200	
106−46−7	New York DEC	Saltwater Sediment Class C	Not specified	5.100	22
106−46−7	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	5.100	
106−46−7	Washington	Marine Sediment Cleanup Objective	Not specified	0.031	34
106−46−7	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.090	34

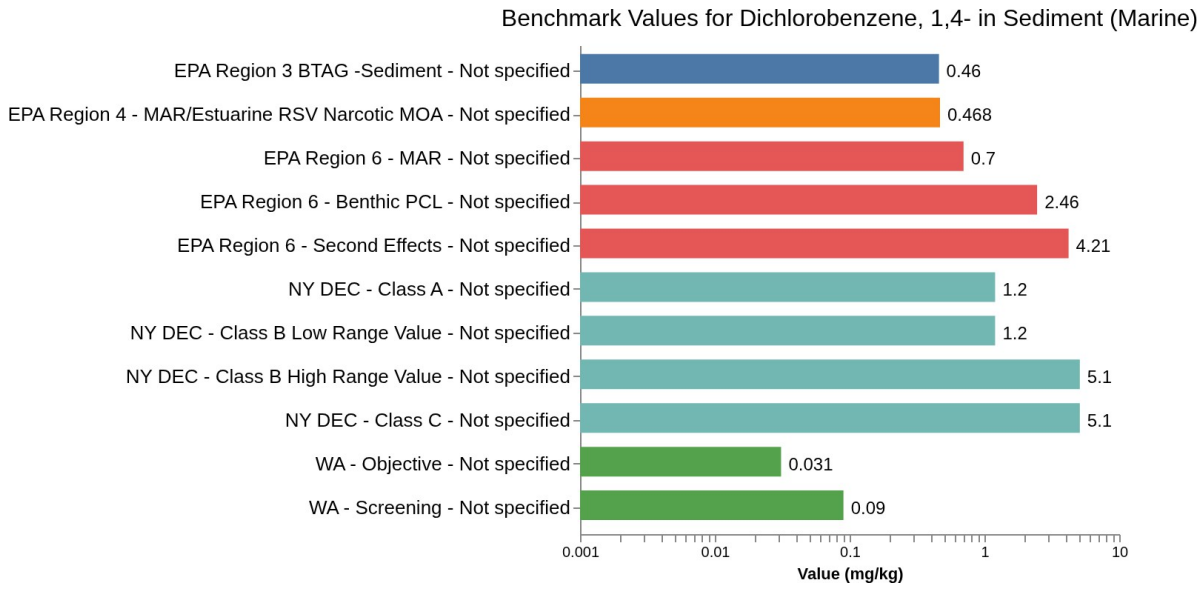


Table 80: Benchmark Values for Dichlorobenzidine, 3,3'− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
91−94−1	EPA Region 3	BTAG − Marine Sediment	Not specified	2.06
91−94−1	EPA Region 4	Marine/Estuarine RSV	Not specified	0.09

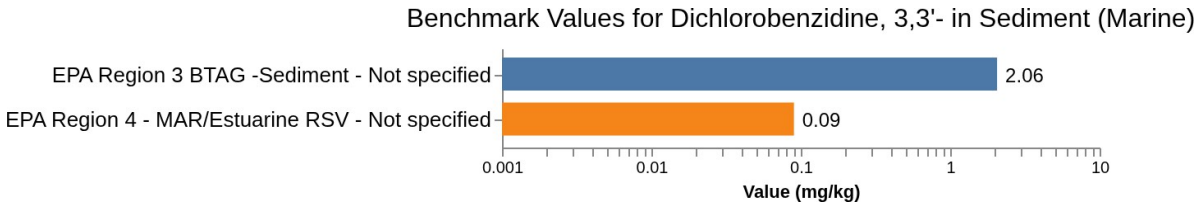


Table 81: Benchmark Values for Dichlorodiphenyldichloroethane, p,p'− (DDD) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
72−54−8	Canada	Sediment Marine ISQG	Not specified	0.00122	
72−54−8	Canada	Sediment Marine PEL	Not specified	0.00781	
72−54−8	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00122	
72−54−8	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.00120	7, 28
72−54−8	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.00800	7, 28
72−54−8	EPA Region 6	Sediment Saltwater	Not specified	0.00122	
72−54−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.00500	
72−54−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.00781	
72−54−8	Florida	Marine TEL	Not specified	0.00122	
72−54−8	Florida	Marine PEL	Not specified	0.00781	

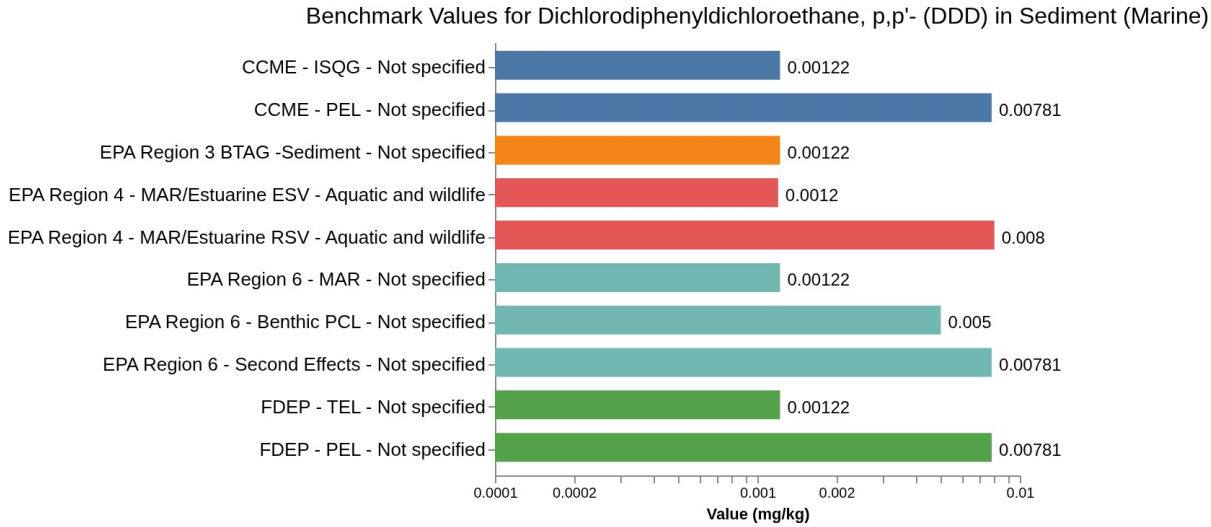


Table 82: Benchmark Values for Dichlorodiphenyldichloroethylene, p,p'− (DDE) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
72−55−9	Canada	Sediment Marine ISQG	Not specified	0.00207	
72−55−9	Canada	Sediment Marine PEL	Not specified	0.37400	
72−55−9	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00207	
72−55−9	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.00210	7, 28
72−55−9	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.37400	7, 28
72−55−9	EPA Region 6	Sediment Saltwater	Not specified	0.00207	
72−55−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.18800	
72−55−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.37400	
72−55−9	Florida	Marine TEL	Not specified	0.00207	
72−55−9	Florida	Marine PEL	Not specified	0.37400	

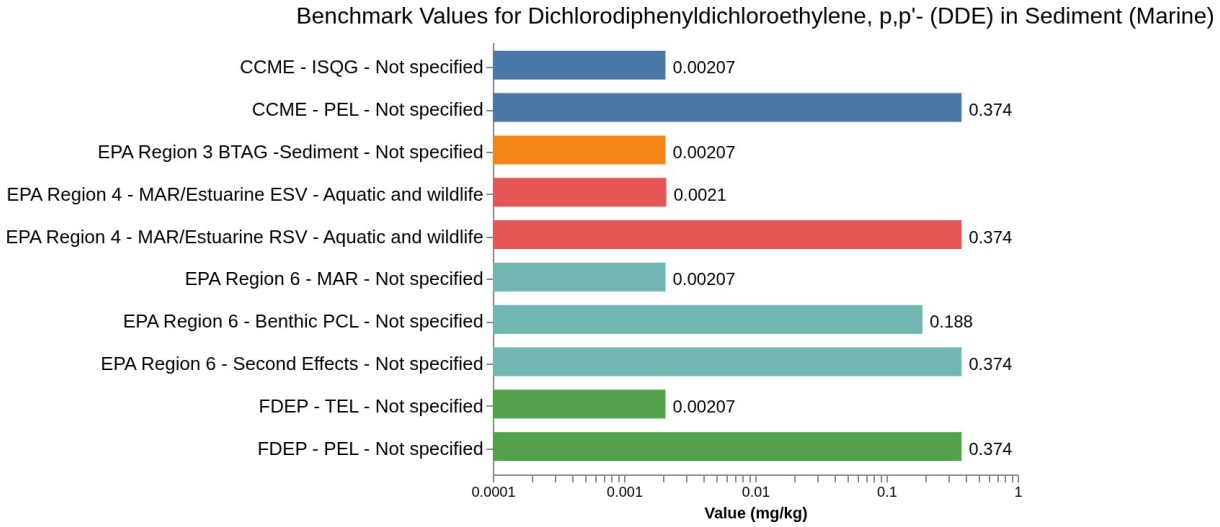


Table 83: Benchmark Values for Dichlorodiphenyltrichloroethane, p,p'− (DDT) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
50−29−3	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00119	
50−29−3	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.00500	7, 28
50−29−3	EPA Region 6	Sediment Saltwater	Not specified	0.00119	
50−29−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.00300	
50−29−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.00477	
50−29−3	Florida	Marine TEL	Not specified	0.00119	
50−29−3	Florida	Marine PEL	Not specified	0.00477	

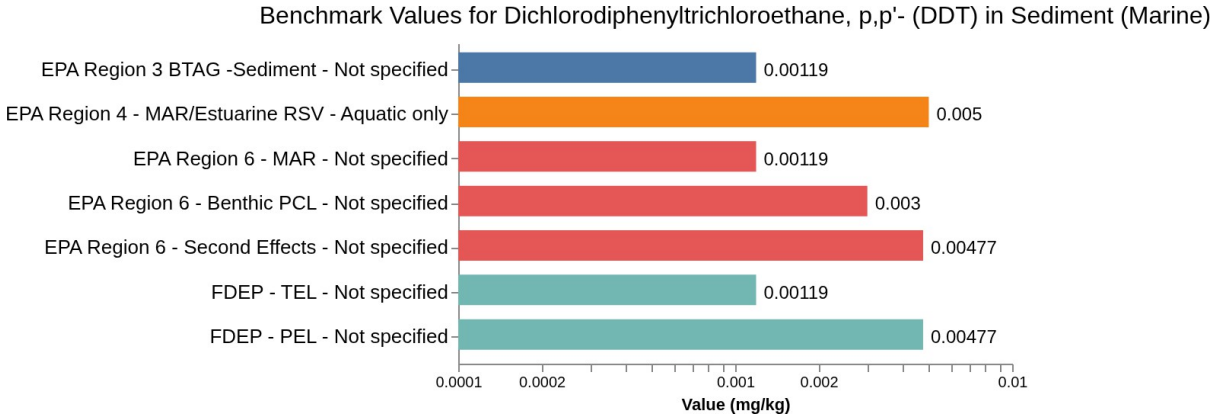


Table 84: Benchmark Values for Dichloroethane, 1,1− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−34−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.666

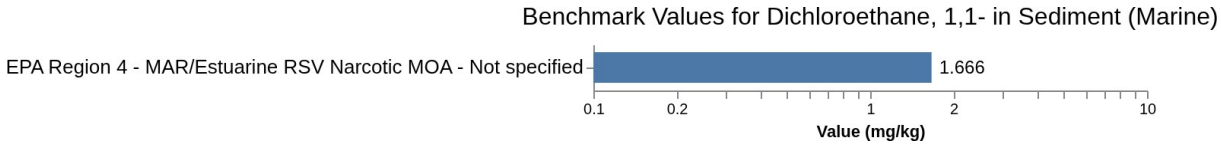


Table 85: Benchmark Values for Dichloroethane, 1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
107−06−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.131
107−06−2	EPA Region 6	Sediment Saltwater	Not specified	8.750
107−06−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	17.510
107−06−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	26.260

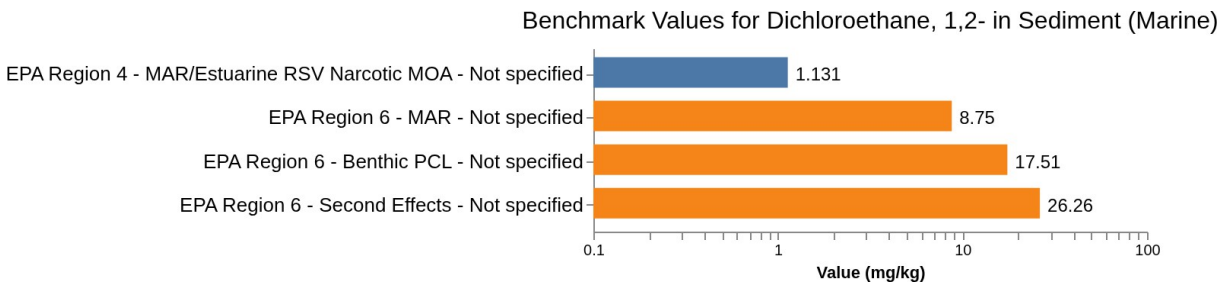


Table 86: Benchmark Values for Dichloroethylene, 1,1− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
75−35−4	EPA Region 3	BTAG − Marine Sediment	Not specified	2.780	
75−35−4	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.002	
75−35−4	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.753	
75−35−4	EPA Region 6	Sediment Saltwater	Not specified	30.820	
75−35−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	61.650	
75−35−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	92.470	
75−35−4	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	4.000	
75−35−4	New York DEC	Saltwater Sediment Class A	Not specified	4.000	23
75−35−4	New York DEC	Saltwater Sediment Class C	Not specified	27.000	22
75−35−4	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	27.000	

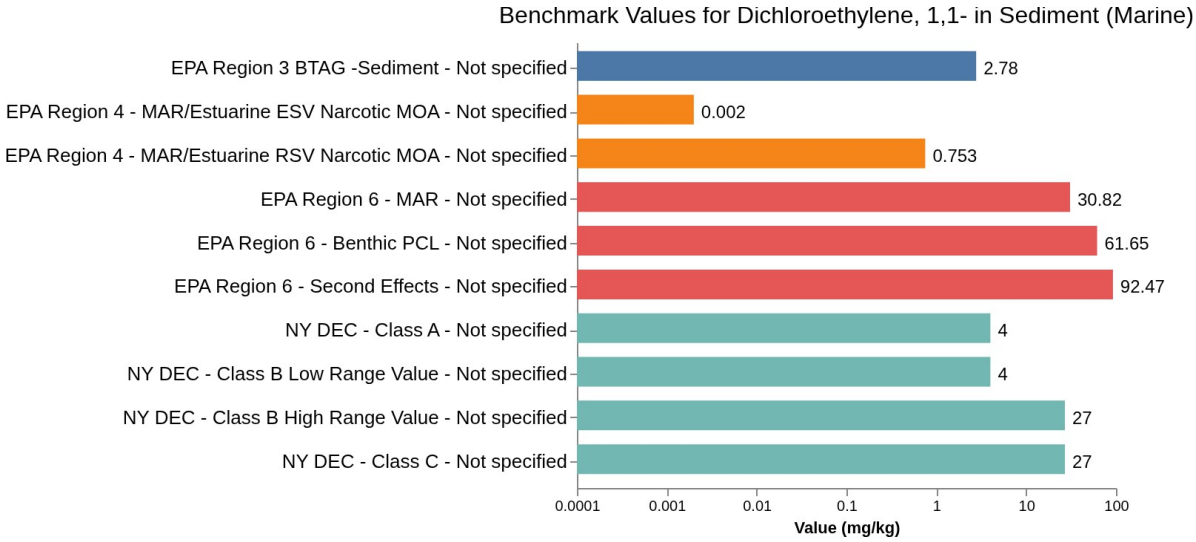


Table 87: Benchmark Values for Dichloroethylene, 1,2− (Mixed Isomers) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
540−59−0	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.569	
540−59−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.135	
540−59−0	EPA Region 6	Sediment Saltwater	Not specified	0.980	
540−59−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.970	
540−59−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.950	

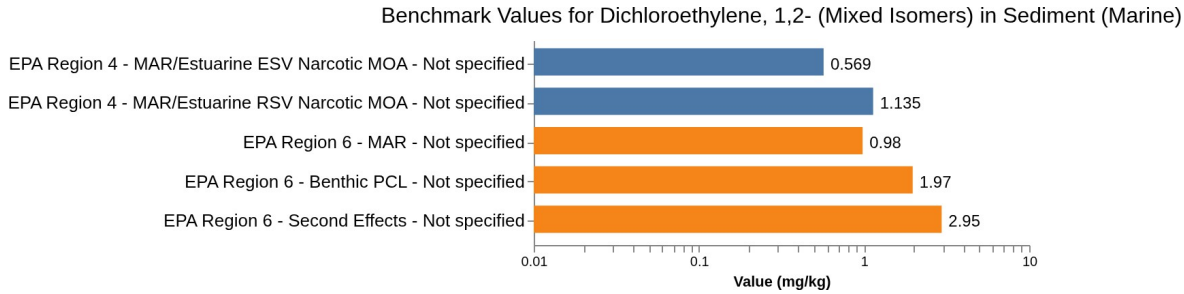


Table 88: Benchmark Values for Dichloroethylene, cis−1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
156−59−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.135

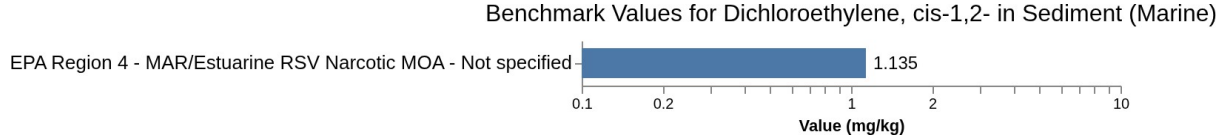


Table 89: Benchmark Values for Dichloroethylene, trans−1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
156−60−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.135

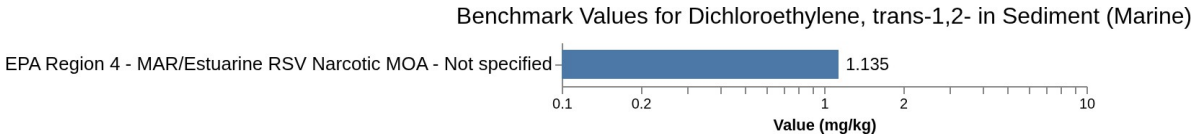


Table 90: Benchmark Values for Dichlorophenol, 2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
120−83−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.886

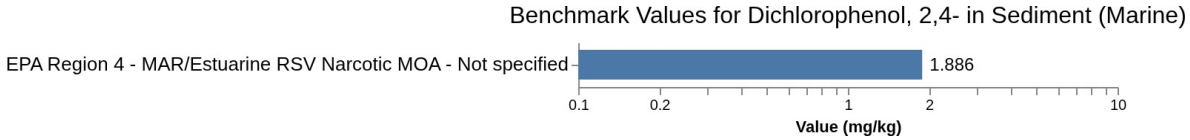


Table 91: Benchmark Values for Dichlorophenoxy Acetic Acid, 2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
94−75−7	EPA Region 4	Marine/Estuarine ESV	Not specified	0.042
94−75−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.436

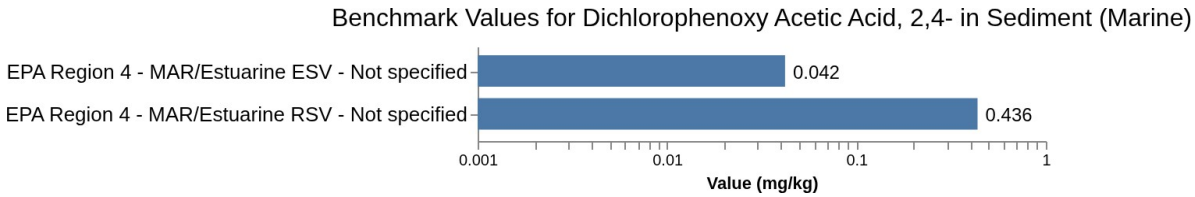


Table 92: Benchmark Values for Dichloropropane, 1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
78−87−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.876
78−87−5	EPA Region 6	Sediment Saltwater	Not specified	7.170
78−87−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	14.350
78−87−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	21.520

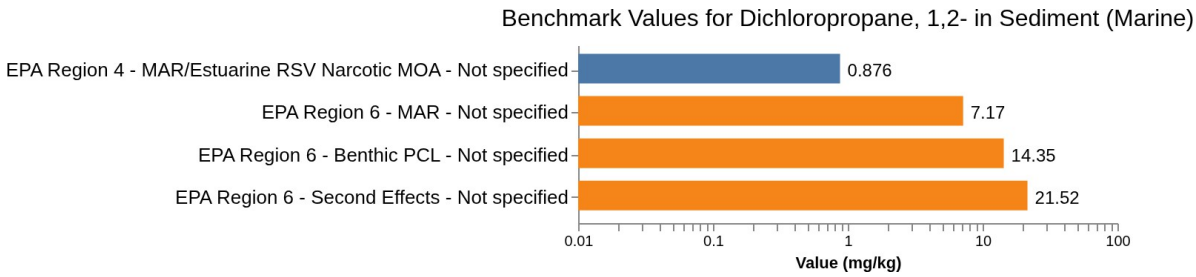


Table 93: Benchmark Values for Dichloropropene, 1,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
542−75−6	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00731
542−75−6	EPA Region 4	Marine/Estuarine ESV	Not specified	0.03470
542−75−6	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.03500
542−75−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.07500
542−75−6	EPA Region 4	Marine/Estuarine RSV	Not specified	0.07500
542−75−6	EPA Region 6	Sediment Saltwater	Not specified	0.04000
542−75−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.15000
542−75−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.26000

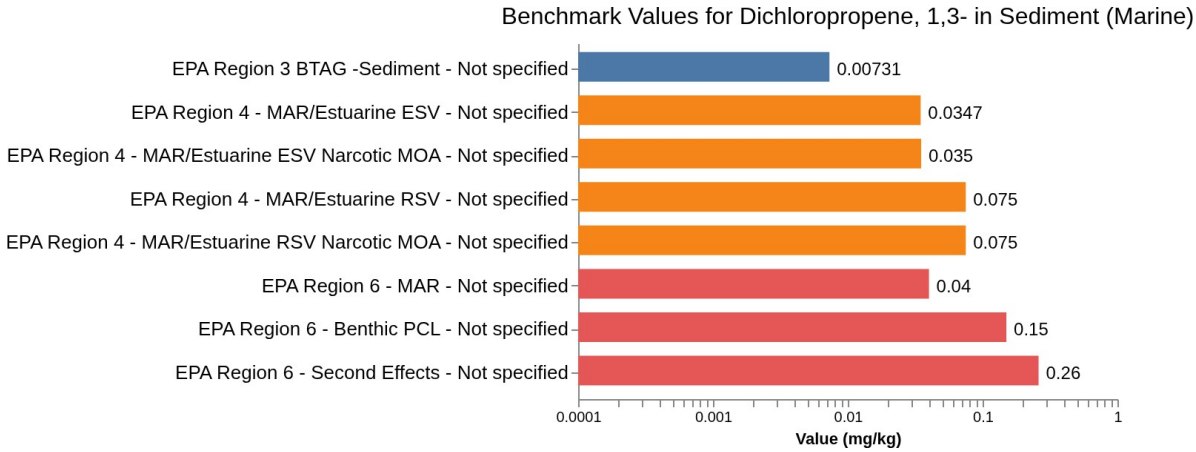


Table 94: Benchmark Values for Dieldrin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
60−57−1	Canada	Sediment Marine ISQG	Not specified	0.000710	
60−57−1	Canada	Sediment Marine PEL	Not specified	0.004300	
60−57−1	EPA OSWER	Marine SQC	Not specified	0.095000	
60−57−1	EPA Region 3	BTAG − Marine Sediment	Not specified	0.000720	
60−57−1	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.000100	7, 28
60−57−1	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.004300	7, 28
60−57−1	EPA Region 6	Sediment Saltwater	Not specified	0.000710	
60−57−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.002500	
60−57−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.004300	
60−57−1	Florida	Marine TEL	Not specified	0.000715	
60−57−1	Florida	Marine PEL	Not specified	0.004300	
60−57−1	New York DEC	Saltwater Sediment Class A	Not specified	0.006000	23
60−57−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.006000	
60−57−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	2.300000	
60−57−1	New York DEC	Saltwater Sediment Class C	Not specified	2.300000	22

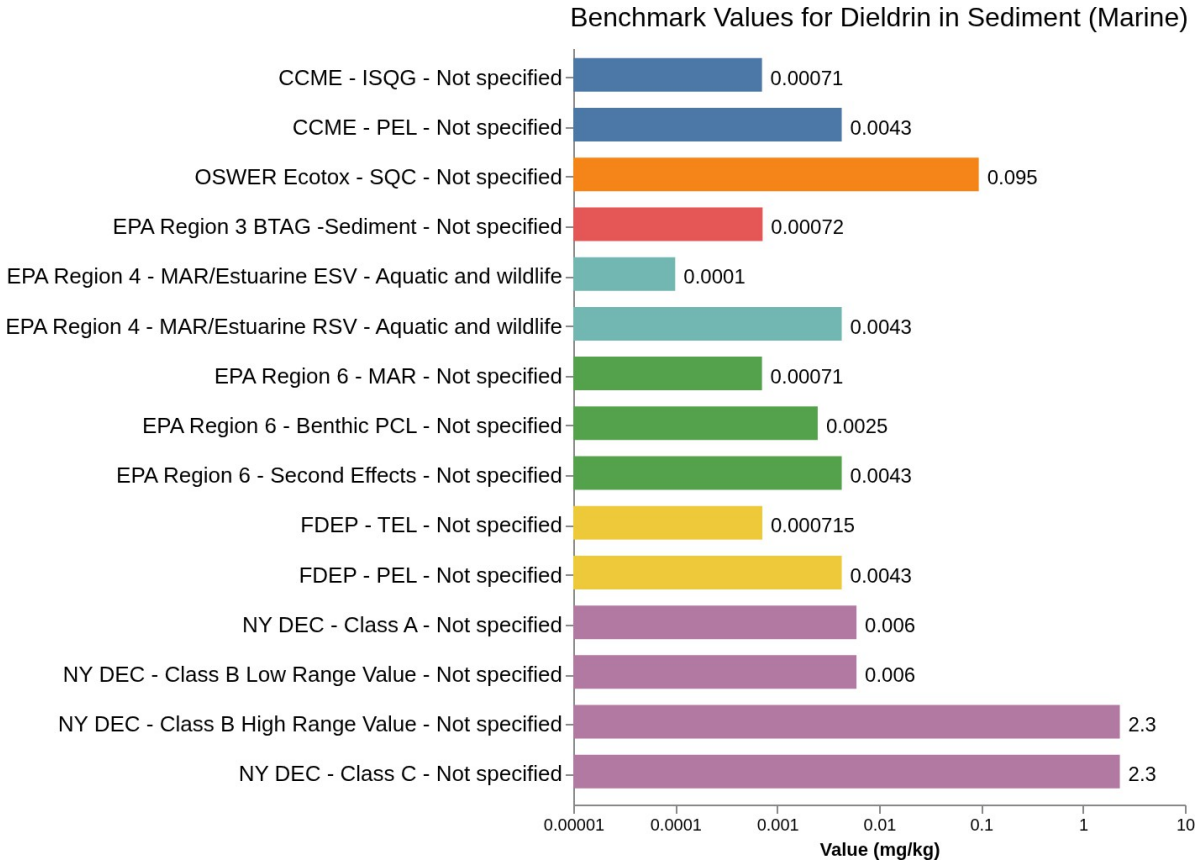


Table 95: Benchmark Values for Diethyl Phthalate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
84−66−2	EPA Region 3	BTAG − Marine Sediment	Not specified	0.218	
84−66−2	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.080	
84−66−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.105	
84−66−2	EPA Region 6	Sediment Saltwater	Not specified	0.610	
84−66−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.860	
84−66−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.100	
84−66−2	Washington	Marine Sediment Cleanup Objective	Not specified	0.610	34
84−66−2	Washington	Marine Sediment Cleanup Screening Level	Not specified	1.100	34

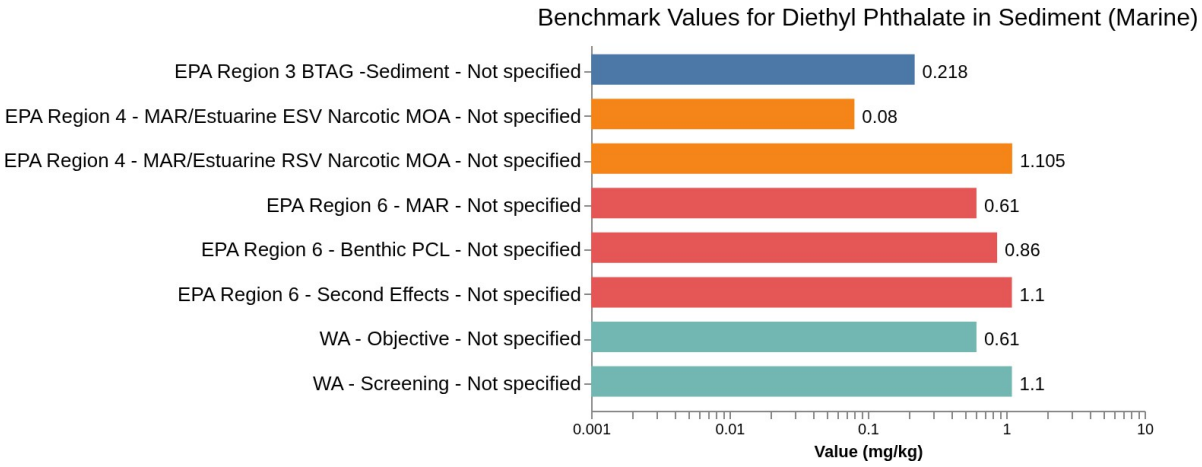


Table 96: Benchmark Values for Dimethylphenol, 2,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
526−75−0	EPA Region 4	Marine/Estuarine RSV	Not specified	1.765

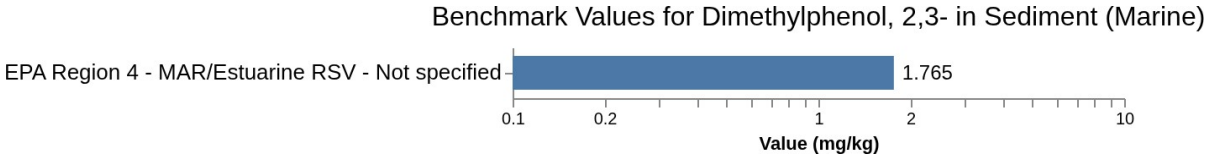


Table 97: Benchmark Values for Dimethylphenol, 2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
105−67−9	EPA Region 4	Marine/Estuarine ESV	Not specified	0.029	28
105−67−9	EPA Region 4	Marine/Estuarine RSV	Not specified	0.504	
105−67−9	EPA Region 6	Sediment Saltwater	Not specified	0.029	
105−67−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.029	
105−67−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.029	
105−67−9	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.029	
105−67−9	Washington	Marine Sediment Cleanup Objective	Not specified	0.029	

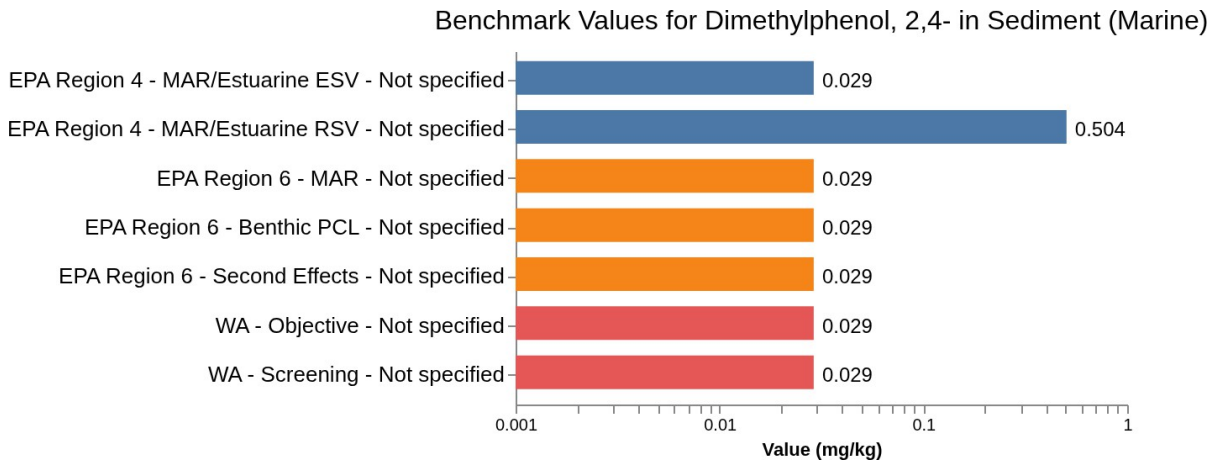


Table 98: Benchmark Values for Dimethylphthalate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
131−11−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.530	
131−11−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.031	
131−11−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.530	
131−11−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.530	
131−11−3	EPA Region 6	Sediment Saltwater	Not specified	0.530	
131−11−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.530	34
131−11−3	Washington	Marine Sediment Cleanup Objective	Not specified	0.530	34

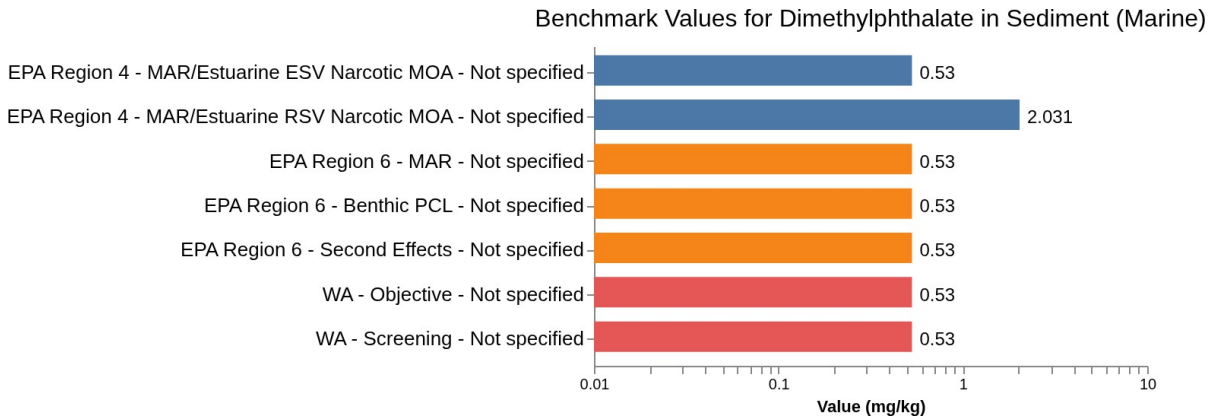


Table 99: Benchmark Values for Dinitroaniline, 3,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
618−87−1	EPA Region 4	Marine/Estuarine ESV	Not specified	0.120
618−87−1	EPA Region 4	Marine/Estuarine RSV	Not specified	0.126

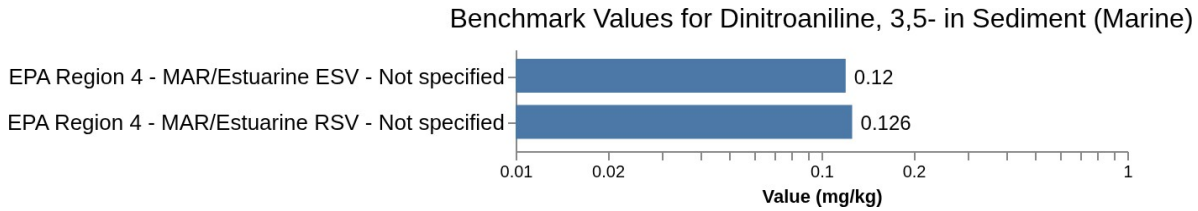


Table 100: Benchmark Values for Dinitrobenzene, 1,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
99−65−0	EPA Region 4	Marine/Estuarine ESV	Not specified	0.037
99−65−0	EPA Region 4	Marine/Estuarine RSV	Not specified	0.105
99−65−0	EPA Region 6	Sediment Saltwater	Not specified	2.130
99−65−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	3.000
99−65−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.900

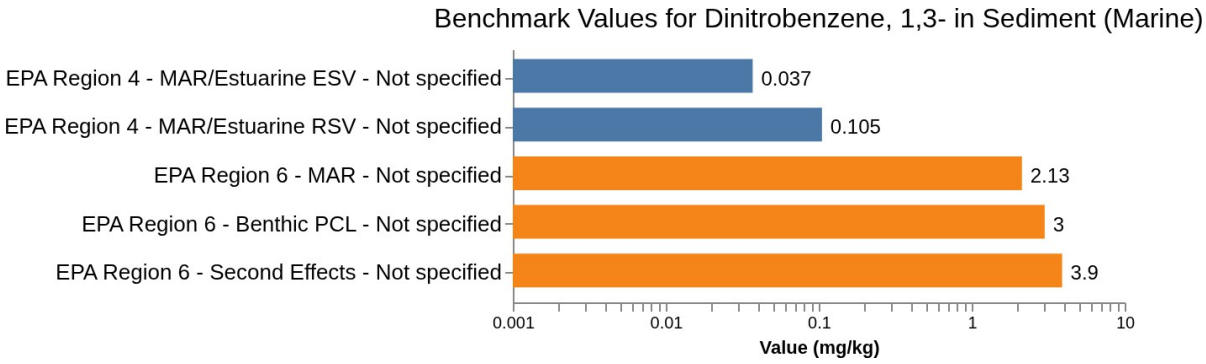


Table 101: Benchmark Values for Dinitro−o−cresol, 4,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
534−52−1	EPA Region 4	Marine/Estuarine ESV	Not specified	1.477
534−52−1	EPA Region 4	Marine/Estuarine RSV	Not specified	2.304

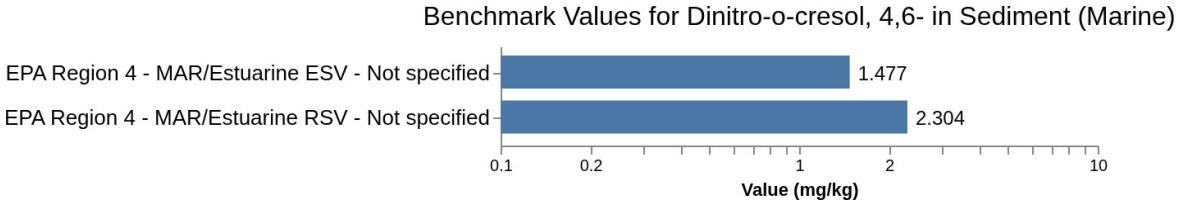


Table 102: Benchmark Values for Dinitrophenol, 2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
51−28−5	EPA Region 4	Marine/Estuarine ESV	Not specified	0.045
51−28−5	EPA Region 4	Marine/Estuarine RSV	Not specified	2.961

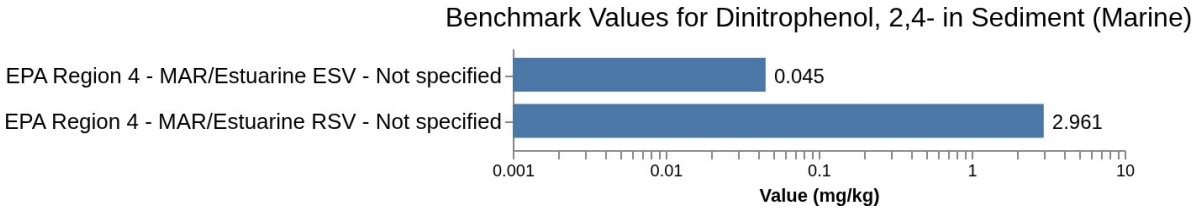


Table 103: Benchmark Values for Dinitrotoluene, 2,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
602−01−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.122

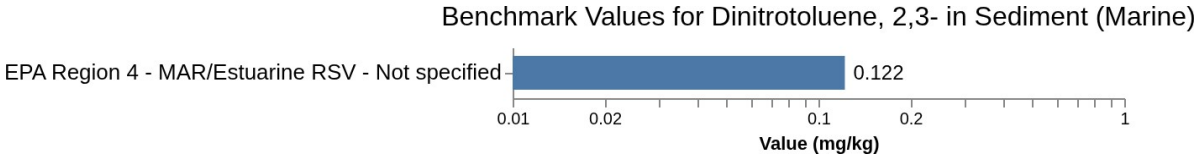


Table 104: Benchmark Values for Dinitrotoluene, 2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
121−14−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.029
121−14−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.114
121−14−2	EPA Region 6	Sediment Saltwater	Not specified	9.460
121−14−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	12.200
121−14−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	14.960

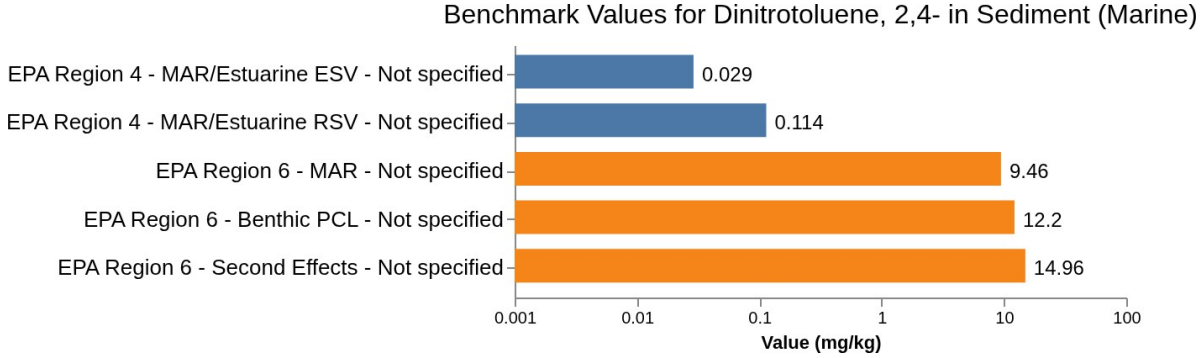


Table 105: Benchmark Values for Dinitrotoluene, 2,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
619−15−8	EPA Region 4	Marine/Estuarine RSV	Not specified	0.144

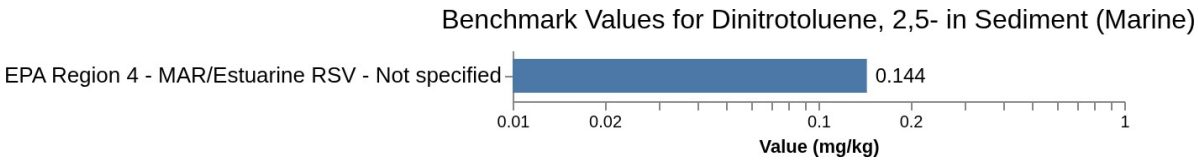


Table 106: Benchmark Values for Dinitrotoluene, 2,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
606−20−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.131

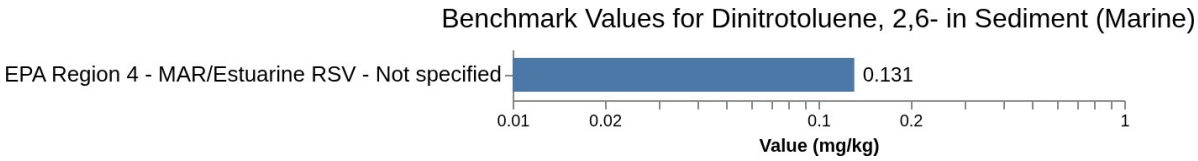


Table 107: Benchmark Values for Dinitrotoluene, 2−Amino−4,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
35572−78−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.052
35572−78−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.140
35572−78−2	EPA Region 6	Sediment Saltwater	Not specified	3.110
35572−78−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	6.200
35572−78−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	9.320

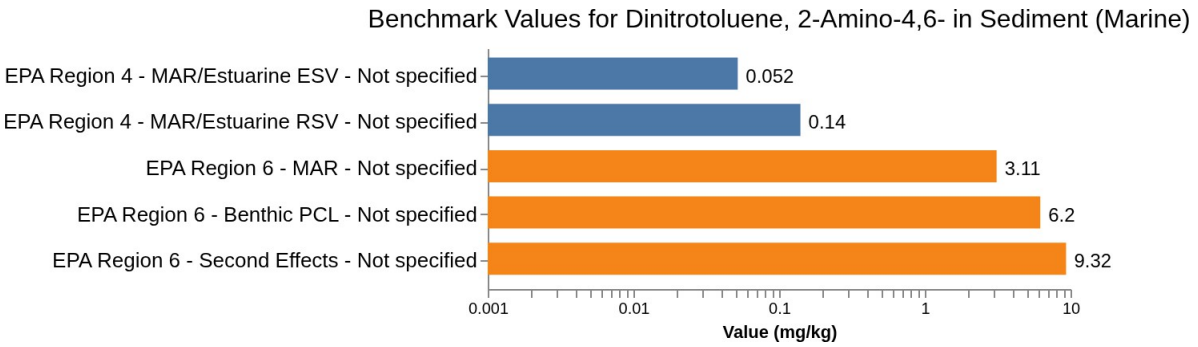


Table 108: Benchmark Values for Dinitrotoluene, 3,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
618−85−9	EPA Region 4	Marine/Estuarine RSV	Not specified	0.144

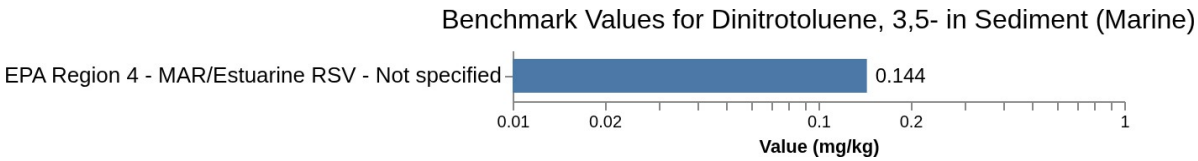


Table 109: Benchmark Values for Dinitrotoluene, 4−Amino−2,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
19406−51−0	EPA Region 4	Marine/Estuarine RSV	Not specified	0.07

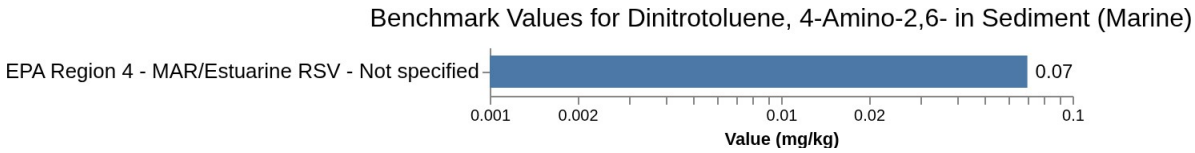


Table 110: Benchmark Values for Dinoseb in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
88−85−7	EPA Region 4	Marine/Estuarine RSV	Not specified	1.817

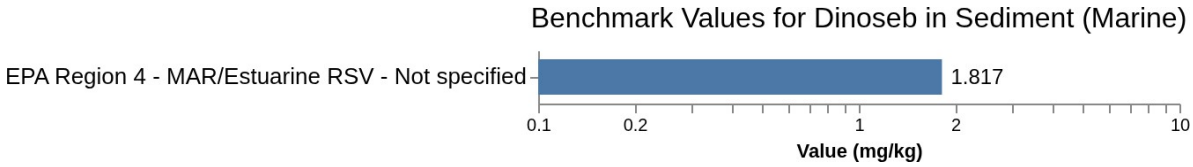


Table 111: Benchmark Values for Dioxin (sum TEQ) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−16−4	New York DEC	Saltwater Sediment Class A	Not specified	5.000000e-07	23
000000−16−4	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	5.000000e-07	22

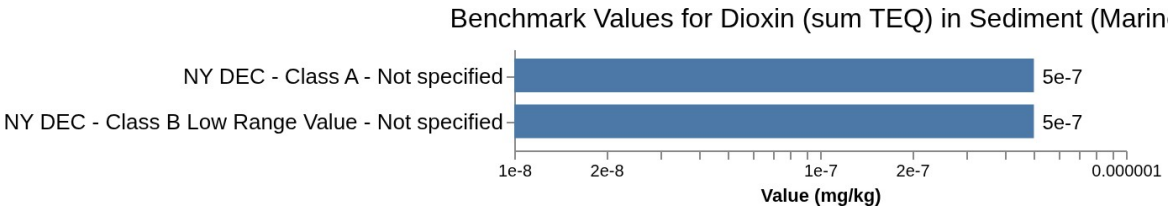


Table 112: Benchmark Values for Diphenylhydrazine, 1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
122−66−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.106

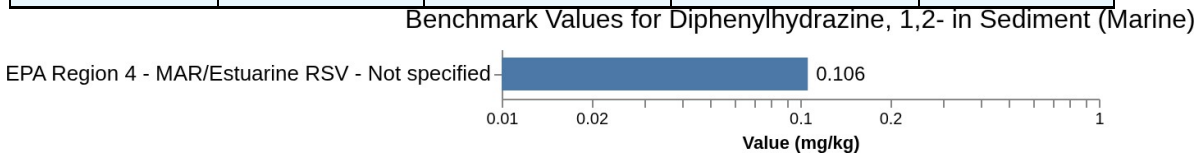


Table 113: Benchmark Values for Diquat in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
2764−72−9	EPA Region 4	Marine/Estuarine ESV	Not specified	0.043
2764−72−9	EPA Region 4	Marine/Estuarine RSV	Not specified	2.498

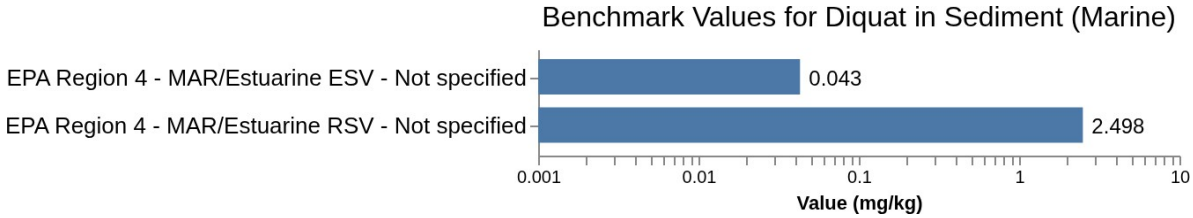


Table 114: Benchmark Values for Endosulfan II in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
33213−65−9	EPA Region 4	Marine/Estuarine ESV	Not specified	0.00014

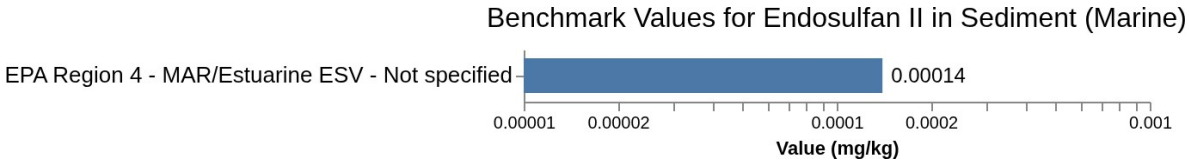


Table 115: Benchmark Values for Endosulfan Sulfate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
1031−07−8	EPA Region 3	BTAG − Marine Sediment	Not specified	0.000357
1031−07−8	EPA Region 4	Marine/Estuarine ESV	Not specified	0.000110

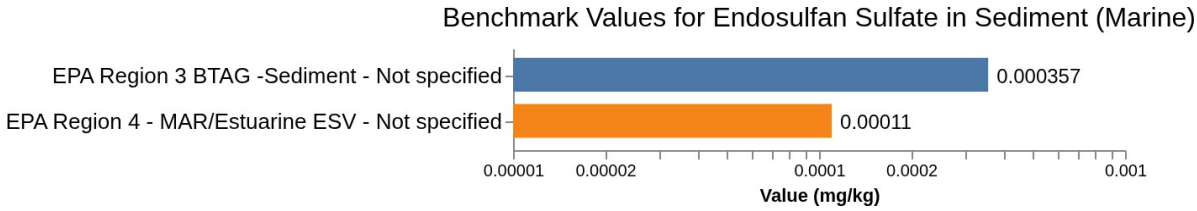


Table 116: Benchmark Values for Endosulfan in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
115−29−7	EPA Region 3	BTAG − Marine Sediment	Not specified	0.000107	
115−29−7	EPA Region 4	Marine/Estuarine ESV	Not specified	0.000100	28
115−29−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.003000	28
115−29−7	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.000100	
115−29−7	New York DEC	Saltwater Sediment Class A	Not specified	0.000100	23
115−29−7	New York DEC	Saltwater Sediment Class C	Not specified	0.003000	22
115−29−7	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.003000	

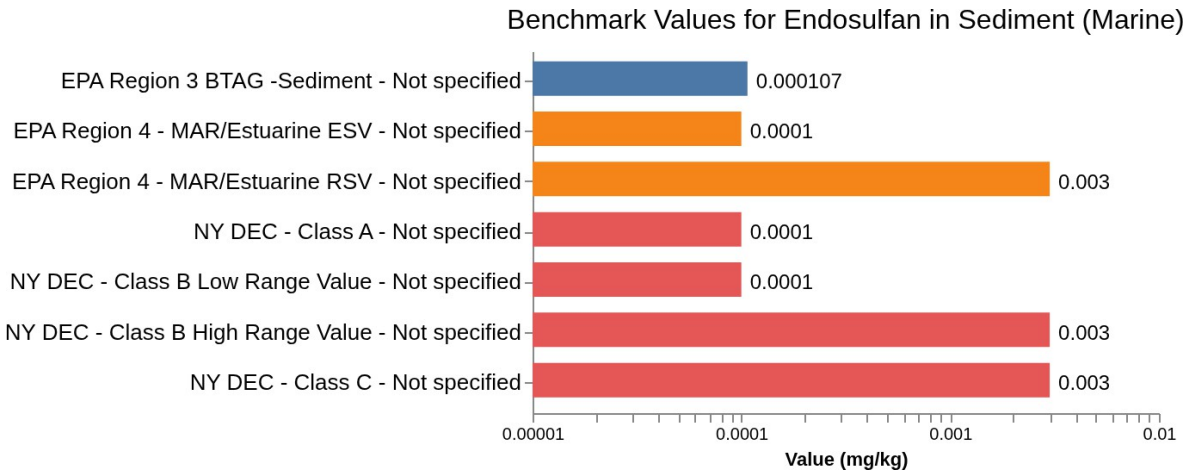


Table 117: Benchmark Values for Endrin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
72−20−8	Canada	Sediment Marine ISQG	Not specified	0.00267	
72−20−8	Canada	Sediment Marine PEL	Not specified	0.06240	
72−20−8	EPA OSWER	Marine SQC	Not specified	0.00350	
72−20−8	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00267	
72−20−8	EPA Region 4	Marine/Estuarine ESV	Not specified	0.00012	7
72−20−8	EPA Region 4	Marine/Estuarine RSV	Not specified	0.00600	7, 28
72−20−8	EPA Region 6	Sediment Saltwater	Not specified	0.00267	
72−20−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.03250	
72−20−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.06240	
72−20−8	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.00600	
72−20−8	New York DEC	Saltwater Sediment Class A	Not specified	0.00600	23
72−20−8	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.09600	
72−20−8	New York DEC	Saltwater Sediment Class C	Not specified	0.09600	22

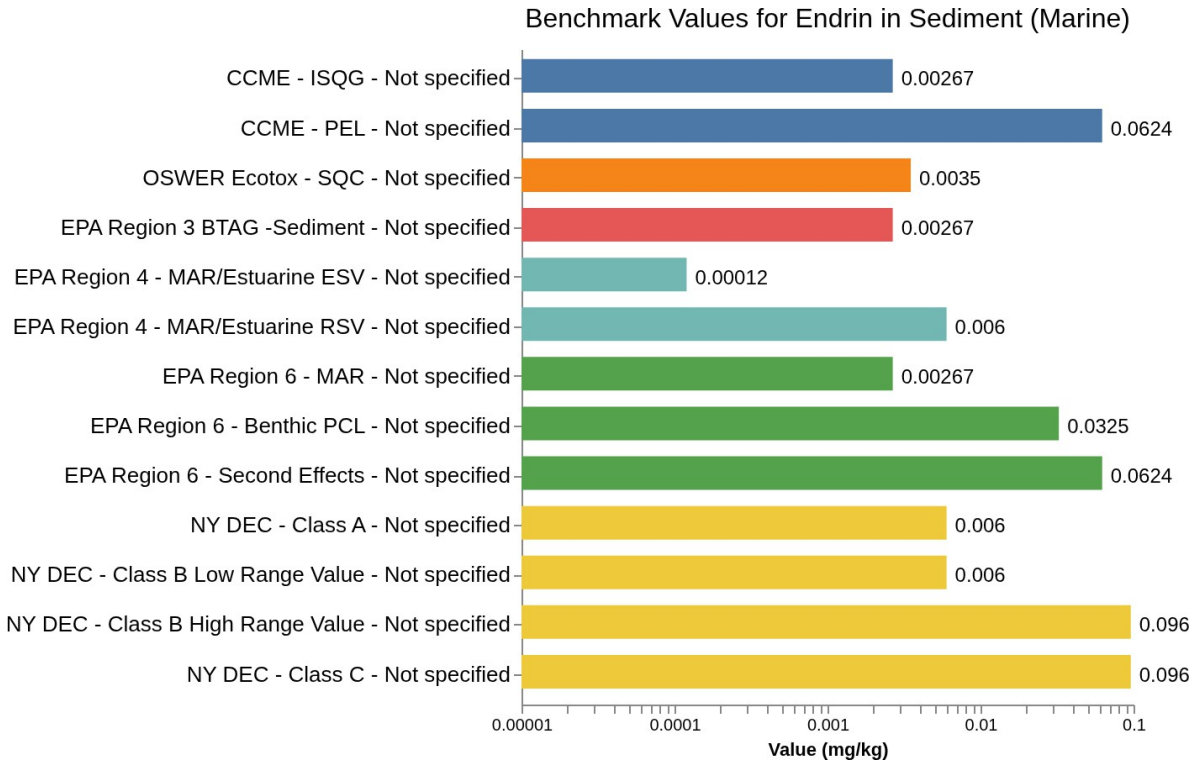


Table 118: Benchmark Values for Ethylbenzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
100−41−4	EPA Region 3	BTAG − Marine Sediment	Not specified	0.305	
100−41−4	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.119	
100−41−4	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.467	
100−41−4	EPA Region 6	Sediment Saltwater	Not specified	1.370	
100−41−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.740	
100−41−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	4.100	
100−41−4	New York DEC	Saltwater Sediment Class A	Not specified	0.110	23
100−41−4	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.110	
100−41−4	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.750	
100−41−4	New York DEC	Saltwater Sediment Class C	Not specified	0.750	22

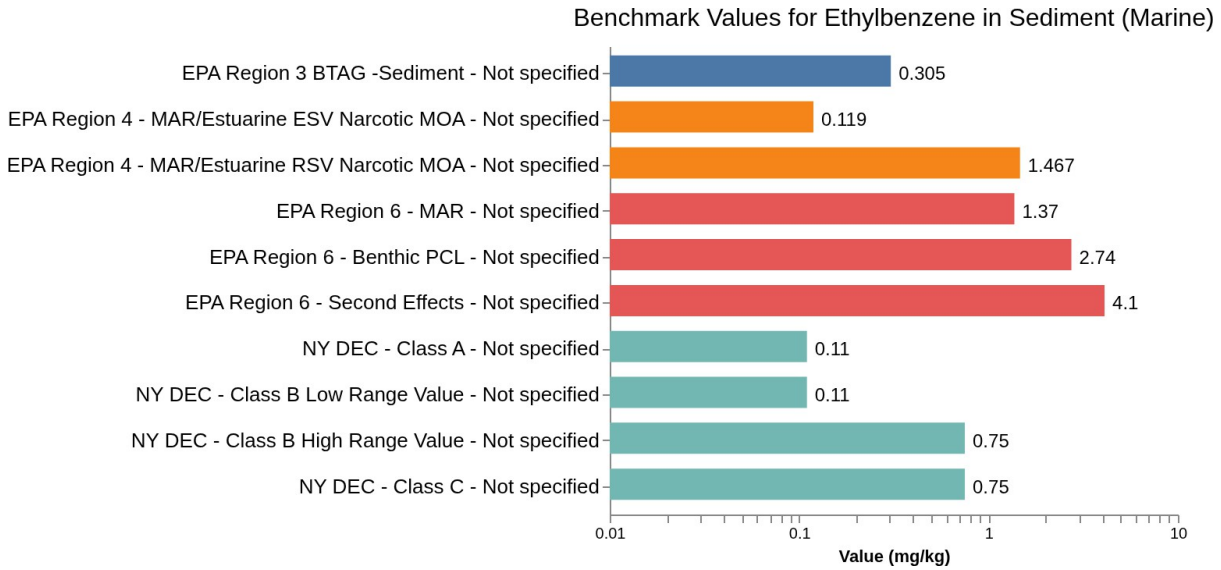


Table 119: Benchmark Values for Ethylene Glycol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
107−21−1	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	1.272
107−21−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	145.224

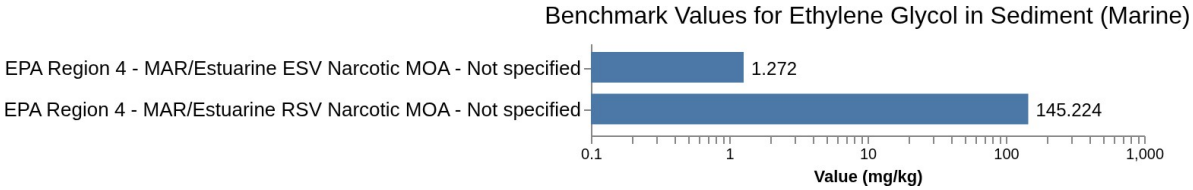


Table 120: Benchmark Values for Fluoranthene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
206−44−0	Canada	Sediment Marine ISQG	Not specified	0.113	
206−44−0	Canada	Sediment Marine PEL	Not specified	1.494	
206−44−0	EPA OSWER	Marine SQC	Not specified	1.400	
206−44−0	EPA Region 3	BTAG − Marine Sediment	Not specified	0.113	
206−44−0	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.113	7
206−44−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	7.070	7
206−44−0	EPA Region 6	Sediment Saltwater	Not specified	0.600	
206−44−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.850	
206−44−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	5.100	
206−44−0	Florida	Marine TEL	Not specified	0.113	
206−44−0	Florida	Marine PEL	Not specified	1.494	
206−44−0	Washington	Marine Sediment Cleanup Objective	Not specified	1.600	34
206−44−0	Washington	Marine Sediment Cleanup Screening Level	Not specified	12.000	34

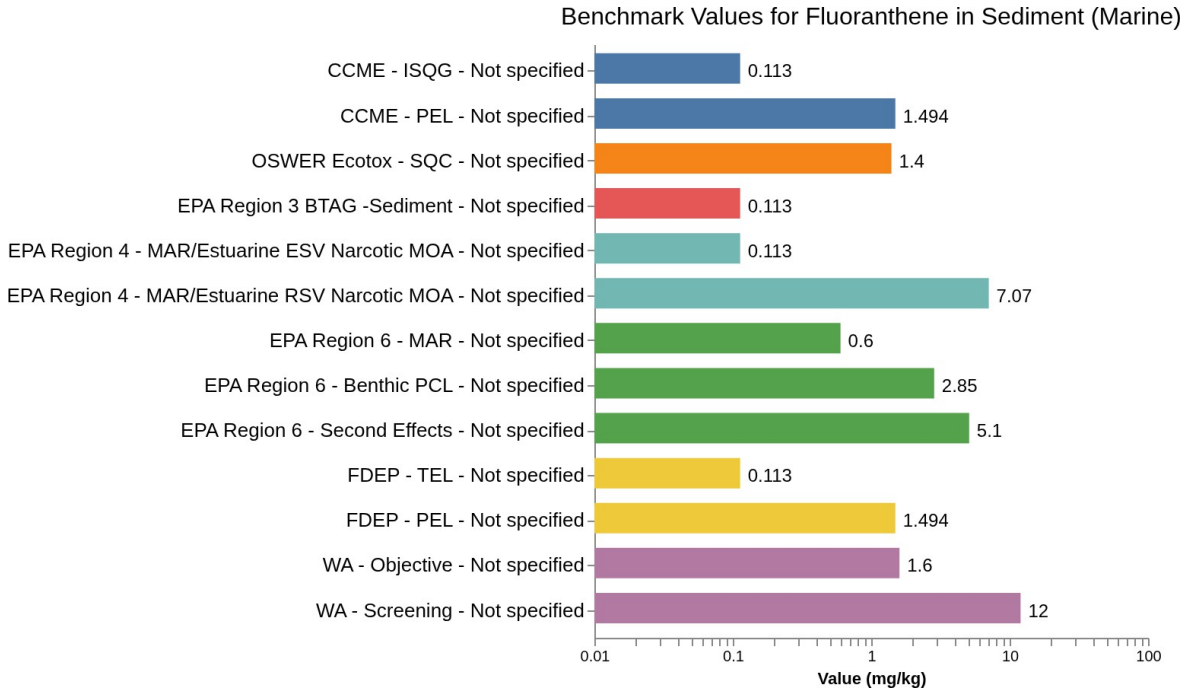


Table 121: Benchmark Values for Fluorene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
86−73−7	Canada	Sediment Marine ISQG	Not specified	0.0212	
86−73−7	Canada	Sediment Marine PEL	Not specified	0.1440	
86−73−7	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0212	
86−73−7	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0210	
86−73−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	5.3800	
86−73−7	EPA Region 6	Sediment Saltwater	Not specified	0.0190	
86−73−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.2800	
86−73−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.5400	
86−73−7	Florida	Marine TEL	Not specified	0.0212	
86−73−7	Florida	Marine PEL	Not specified	0.1440	
86−73−7	Washington	Marine Sediment Cleanup Objective	Not specified	0.2300	34
86−73−7	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.7900	34

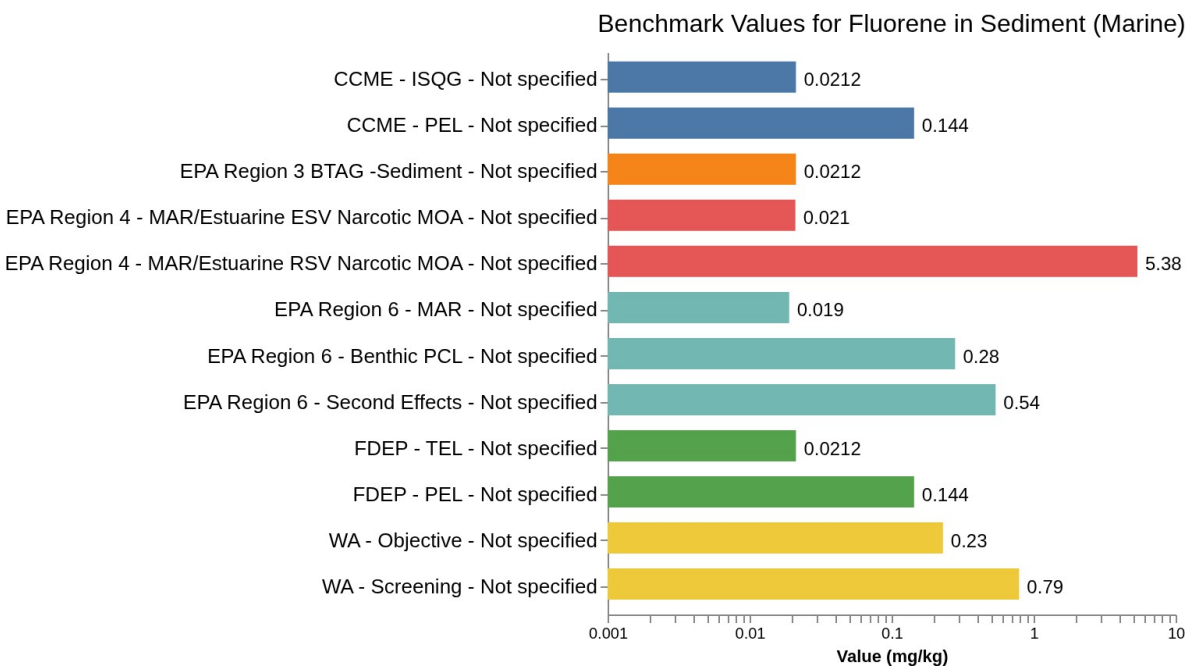


Table 122: Benchmark Values for Halofenozide in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
112226−61−6	New York DEC	Saltwater Sediment Class A	Not specified	0.23	23
112226−61−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.23	
112226−61−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.80	
112226−61−6	New York DEC	Saltwater Sediment Class C	Not specified	1.80	22

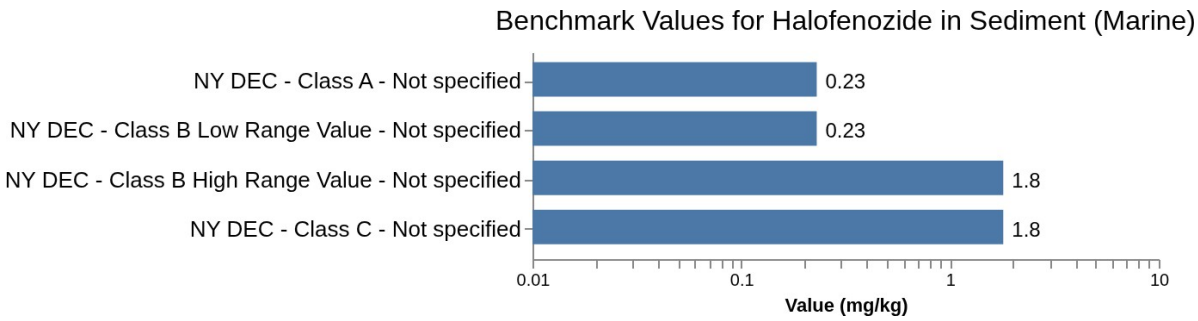


Table 123: Benchmark Values for Heptachlor Epoxide in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1024−57−3	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00060	
1024−57−3	EPA Region 4	Marine/Estuarine ESV	Not specified	0.00014	
1024−57−3	EPA Region 4	Marine/Estuarine RSV	Not specified	0.01500	28
1024−57−3	New York DEC	Saltwater Sediment Class A	Not specified	0.01500	23
1024−57−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.01500	
1024−57−3	New York DEC	Saltwater Sediment Class C	Not specified	0.22000	22
1024−57−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.22000	

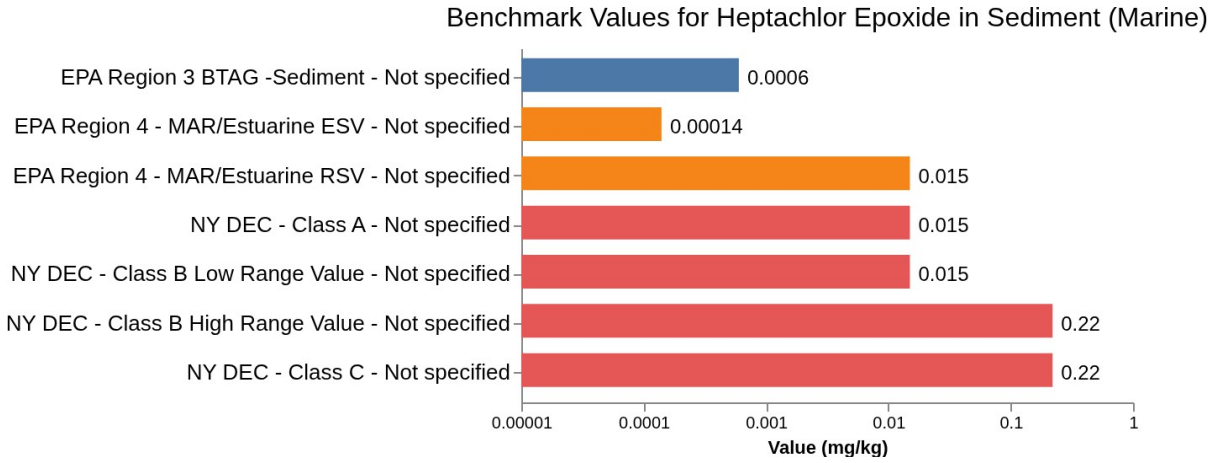


Table 124: Benchmark Values for Heptachlor in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
76−44−8	Canada	Sediment Marine ISQG	Not specified	0.00060	
76−44−8	Canada	Sediment Marine PEL	Not specified	0.00274	
76−44−8	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.00150	7
76−44−8	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.07100	7, 28
76−44−8	EPA Region 6	Sediment Saltwater	Not specified	0.00060	
76−44−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.00170	
76−44−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.00274	
76−44−8	New York DEC	Saltwater Sediment Class A	Not specified	0.07100	23
76−44−8	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.07100	
76−44−8	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.10000	
76−44−8	New York DEC	Saltwater Sediment Class C	Not specified	1.10000	22

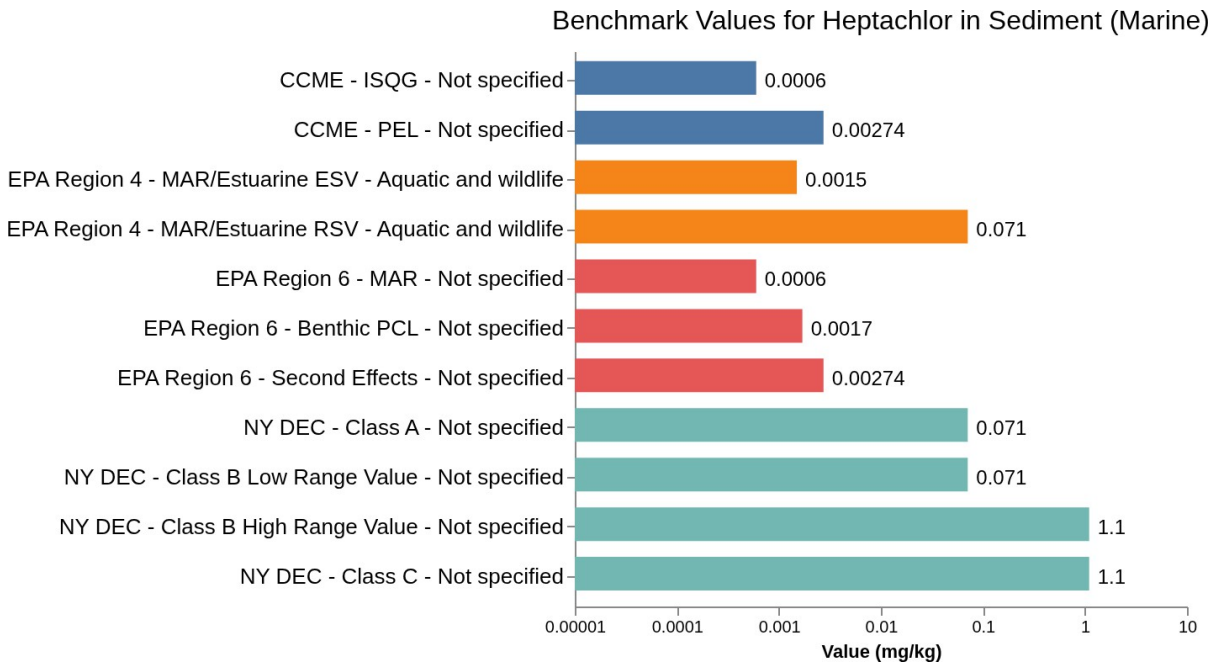


Table 125: Benchmark Values for Hexabromocyclododecane (HBCD) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
3194−55−6	ECC Canada	Marine LTC Sediment	Not specified	1.6

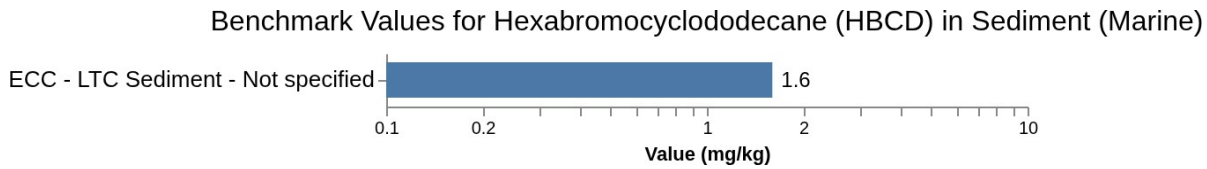


Table 126: Benchmark Values for Hexachlorobenzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
118−74−1	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.0100	7
118−74−1	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.0230	7, 28
118−74−1	Washington	Marine Sediment Cleanup Objective	Not specified	0.0038	34
118−74−1	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.0230	34

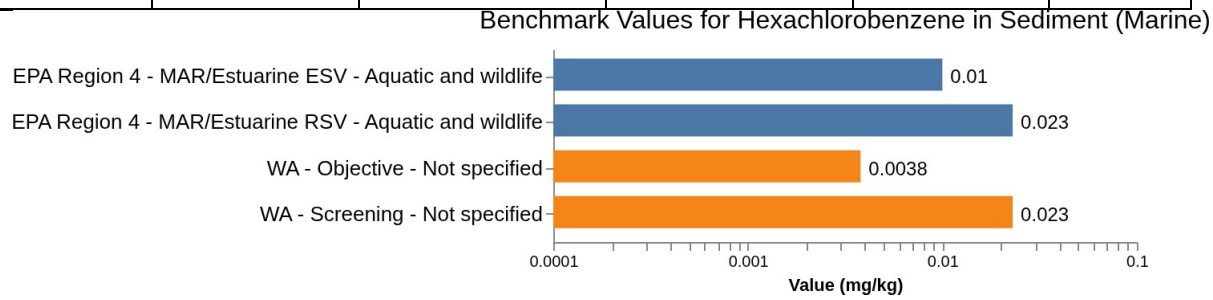


Table 127: Benchmark Values for Hexachlorobutadiene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
87−68−3	EPA Region 6	Sediment Saltwater	Not specified	0.022	
87−68−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.350	
87−68−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.670	
87−68−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.350	
87−68−3	New York DEC	Saltwater Sediment Class A	Not specified	0.350	23
87−68−3	New York DEC	Saltwater Sediment Class C	Not specified	3.500	22
87−68−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	3.500	
87−68−3	Washington	Marine Sediment Cleanup Objective	Not specified	0.039	34
87−68−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.062	34

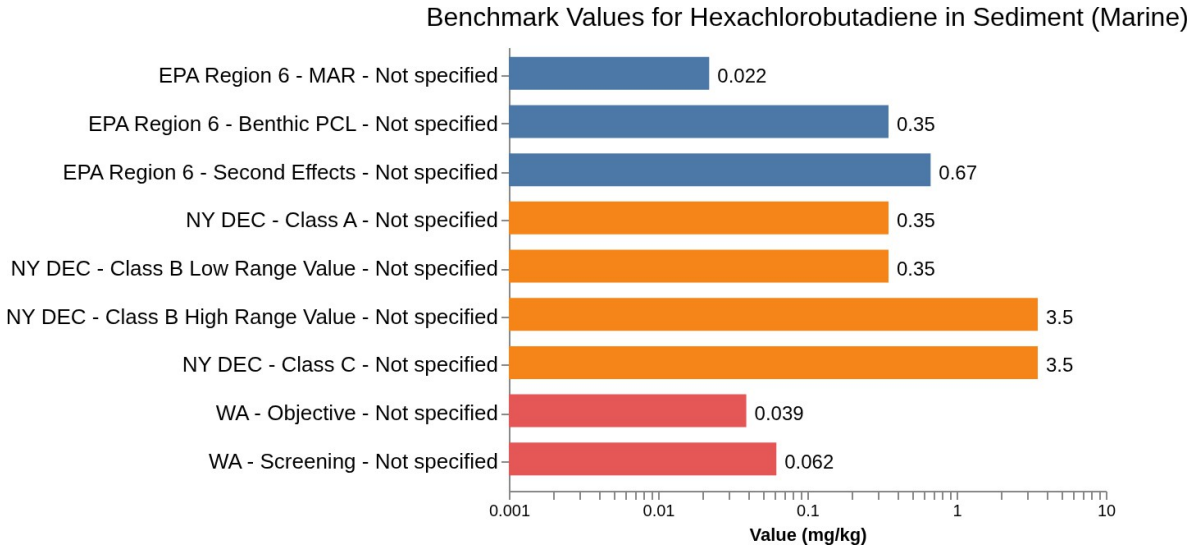


Table 128: Benchmark Values for Hexachlorocyclohexane, Alpha− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
319−84−6	EPA Region 3	BTAG − Marine Sediment	Not specified	1.3600	
319−84−6	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0013	7
319−84−6	EPA Region 4	Marine/Estuarine RSV	Not specified	0.5670	7

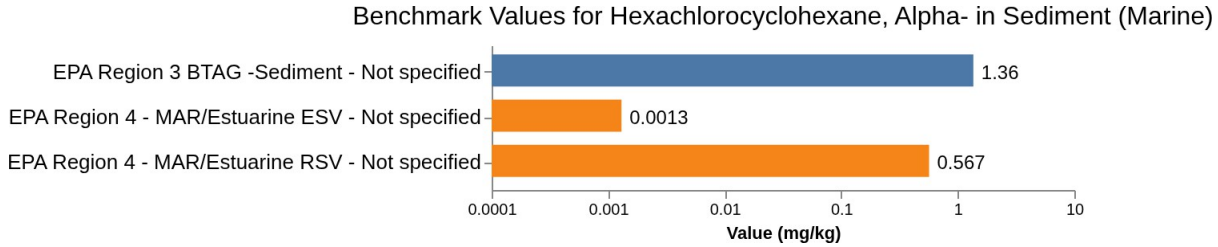


Table 129: Benchmark Values for Hexachlorocyclohexane, Beta− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
319−85−7	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.567	7

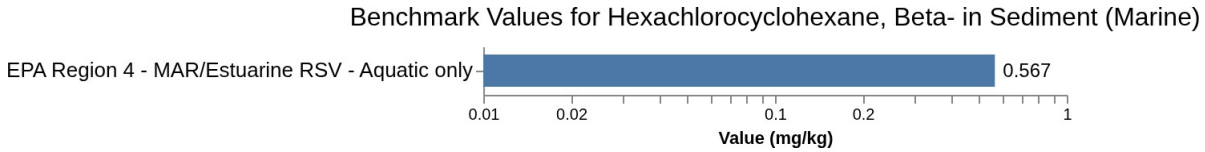


Table 130: Benchmark Values for Hexachlorocyclohexane, Gamma− (Lindane) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
58−89−9	Canada	Sediment Marine ISQG	Not specified	0.00032	
58−89−9	Canada	Sediment Marine PEL	Not specified	0.00099	
58−89−9	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00032	
58−89−9	EPA Region 4	Marine/Estuarine ESV	Aquatic only	0.00060	7
58−89−9	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.00099	7
58−89−9	EPA Region 6	Sediment Saltwater	Not specified	0.00032	
58−89−9	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.00066	
58−89−9	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.00099	
58−89−9	Florida	Marine TEL	Not specified	0.00032	
58−89−9	Florida	Marine PEL	Not specified	0.00099	
58−89−9	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.00100	
58−89−9	New York DEC	Saltwater Sediment Class A	Not specified	0.00100	23
58−89−9	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.00700	
58−89−9	New York DEC	Saltwater Sediment Class C	Not specified	0.00700	22

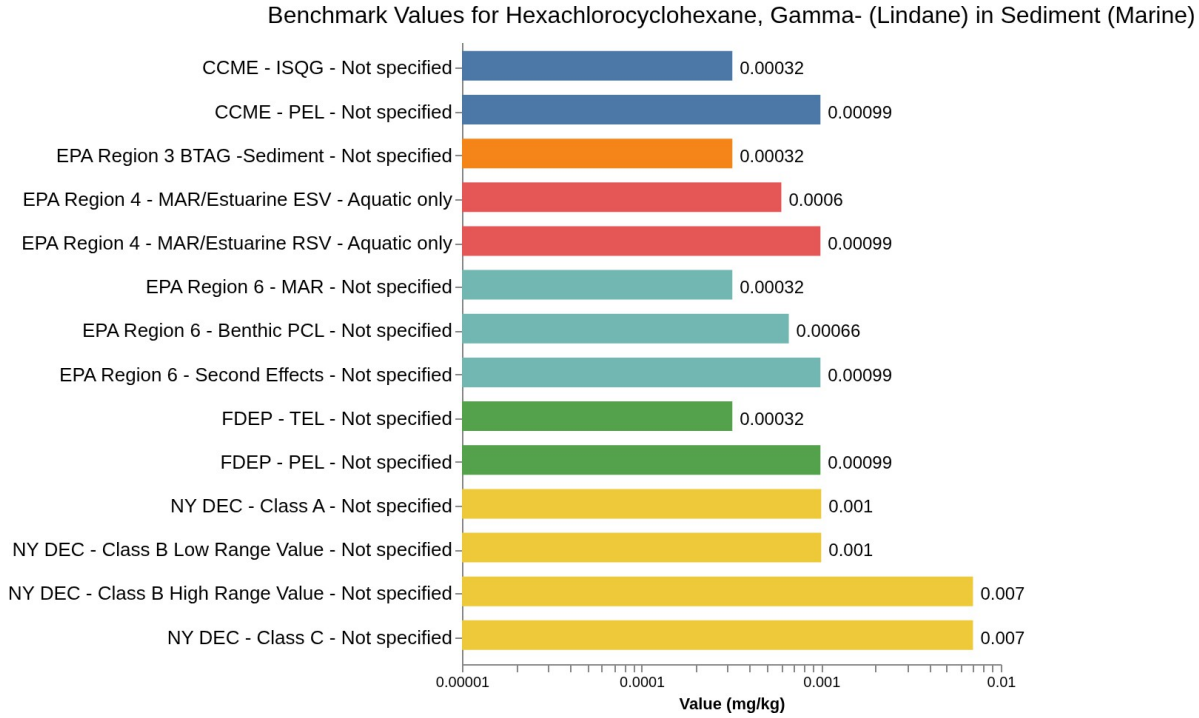


Table 131: Benchmark Values for Hexachlorocyclopentadiene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
77−47−4	EPA Region 3	BTAG − Marine Sediment	Not specified	0.139	
77−47−4	EPA Region 4	Marine/Estuarine ESV	Aquatic only	0.001	7
77−47−4	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.130	7, 28
77−47−4	EPA Region 6	Sediment Saltwater	Not specified	0.360	
77−47−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.710	
77−47−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.060	
77−47−4	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.130	
77−47−4	New York DEC	Saltwater Sediment Class A	Not specified	0.130	23
77−47−4	New York DEC	Saltwater Sediment Class C	Not specified	1.300	22
77−47−4	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.300	

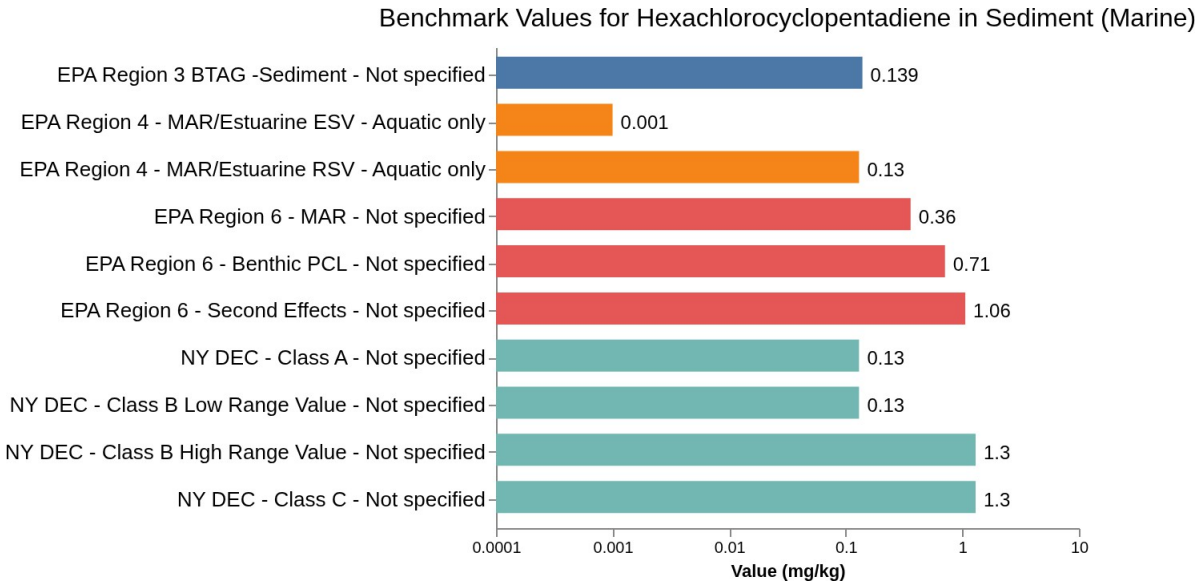


Table 132: Benchmark Values for Hexachloroethane in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
67−72−1	EPA Region 3	BTAG − Marine Sediment	Not specified	0.804
67−72−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.075
67−72−1	EPA Region 6	Sediment Saltwater	Not specified	1.860
67−72−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	3.750
67−72−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	5.640

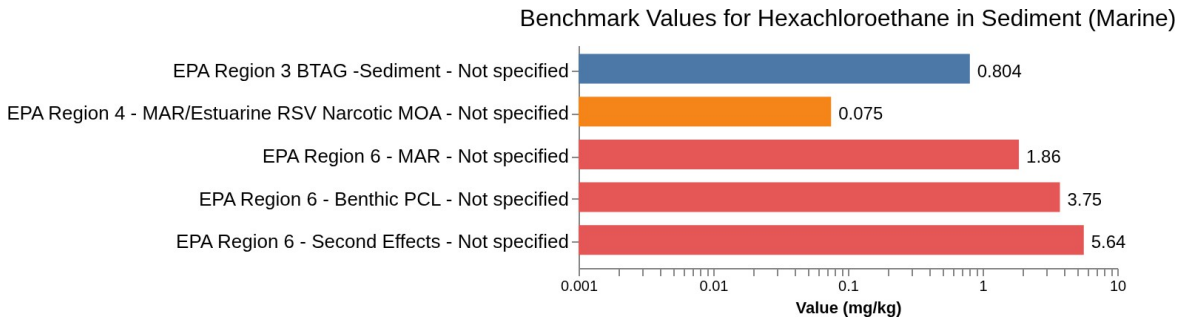


Table 133: Benchmark Values for Hexahydro−1,3,5−trinitro−1,3,5−triazine (RDX) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
121−82−4	EPA Region 4	Marine/Estuarine ESV	Not specified	0.155
121−82−4	EPA Region 4	Marine/Estuarine RSV	Not specified	0.312
121−82−4	EPA Region 6	Sediment Saltwater	Not specified	1.250
121−82−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.500
121−82−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.750

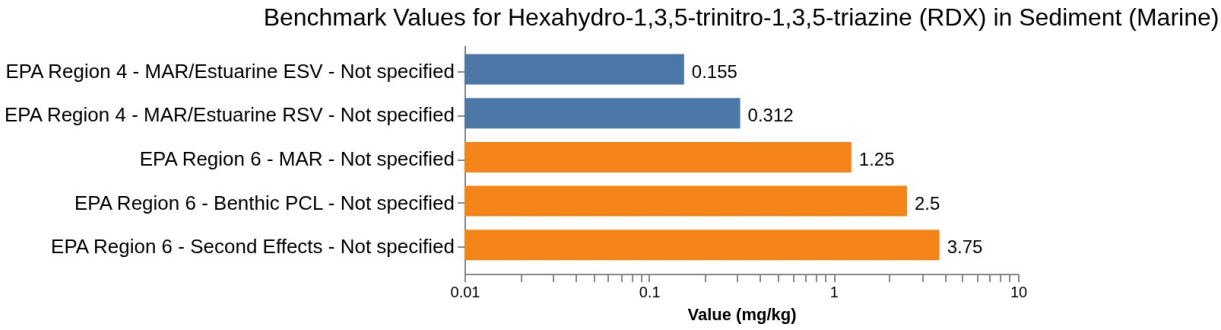


Table 134: Benchmark Values for Hexane, n− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
110−54−3	EPA Region 4	Marine/Estuarine RSV	Not specified	0.186

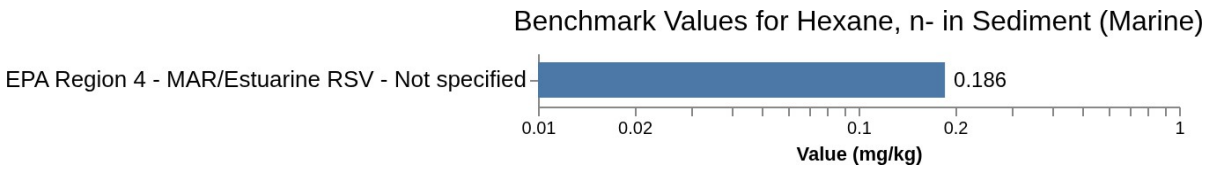


Table 135: Benchmark Values for Hexanone, 2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
591−78−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	7.598

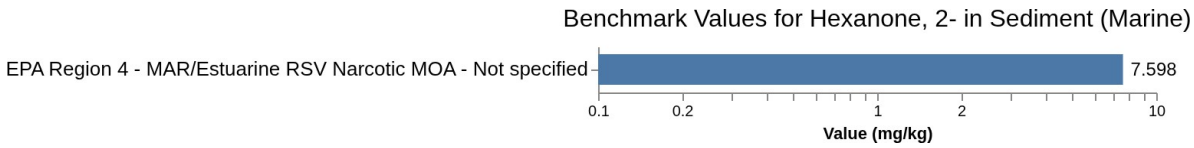


Table 136: Benchmark Values for Hydrazine in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
302−01−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0146

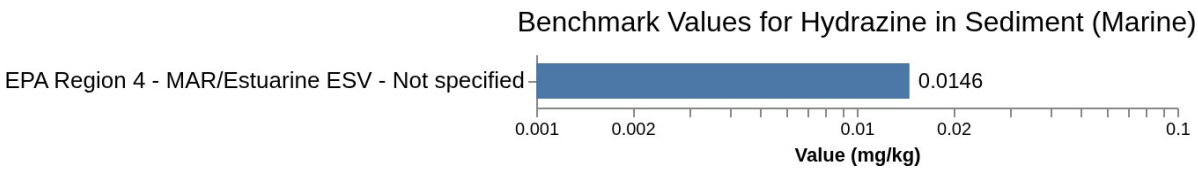


Table 137: Benchmark Values for Hydroquinone in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
123−31−9	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0041
123−31−9	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0082

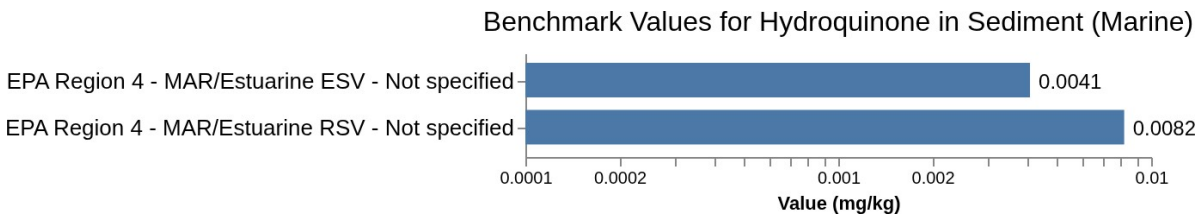


Table 138: Benchmark Values for Indeno[1,2,3−cd]pyrene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
193−39−5	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.34	7
193−39−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	11.20	7
193−39−5	Washington	Marine Sediment Cleanup Objective	Not specified	0.34	34
193−39−5	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.88	34

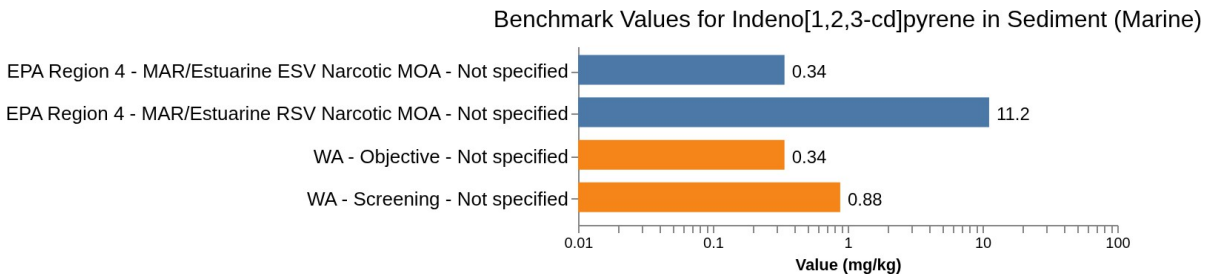


Table 139: Benchmark Values for Isophorone in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
78−59−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.948

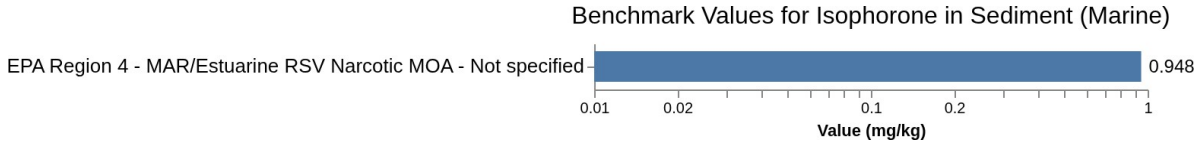


Table 140: Benchmark Values for Isopropanol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
67−63−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	16.7

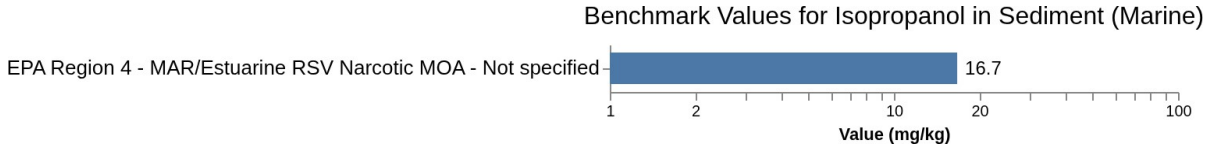


Table 141: Benchmark Values for Isopropyltoluene, p− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
99−87−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.242

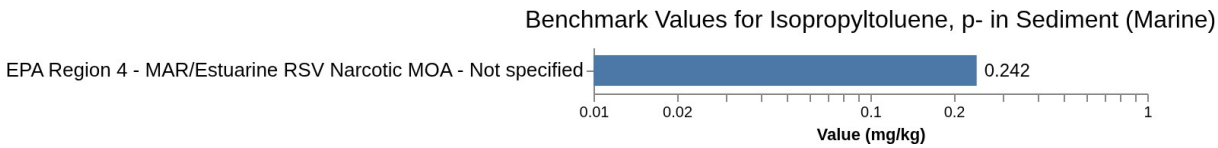


Table 142: Benchmark Values for Lead and Compounds in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7439−92−1	Canada	Sediment Marine ISQG	Not specified	30.20	
7439−92−1	Canada	Sediment Marine PEL	Not specified	112.00	
7439−92−1	EPA Region 3	BTAG − Marine Sediment	Not specified	30.20	
7439−92−1	EPA Region 4	Marine/Estuarine ESV	Not specified	30.20	
7439−92−1	EPA Region 4	Marine/Estuarine RSV	Not specified	112.00	
7439−92−1	EPA Region 6	Sediment Saltwater	Not specified	46.70	
7439−92−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	132.35	
7439−92−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	218.00	
7439−92−1	Florida	Marine TEL	Not specified	30.20	
7439−92−1	Florida	Marine PEL	Not specified	112.00	
7439−92−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	47.00	
7439−92−1	New York DEC	Saltwater Sediment Class A	Not specified	47.00	23
7439−92−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	220.00	
7439−92−1	New York DEC	Saltwater Sediment Class C	Not specified	220.00	22
7439−92−1	Washington	Marine Sediment Cleanup Objective	Not specified	450.00	
7439−92−1	Washington	Marine Sediment Cleanup Screening Level	Not specified	530.00	

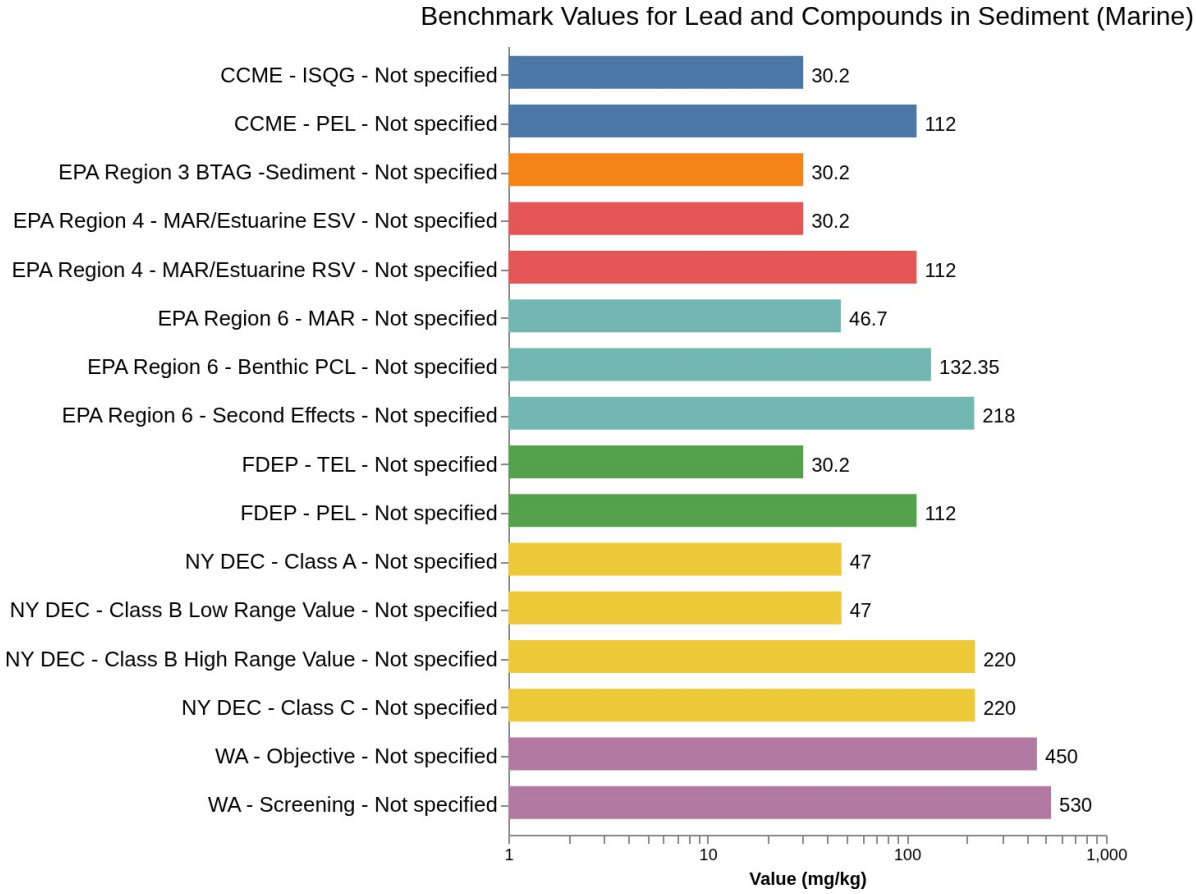


Table 143: Benchmark Values for Malathion in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
121−75−5	EPA Region 3	BTAG − Marine Sediment	Not specified	0.00021	
121−75−5	EPA Region 4	Marine/Estuarine ESV	Not specified	0.00006	
121−75−5	EPA Region 4	Marine/Estuarine RSV	Not specified	0.00042	28
121−75−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.00042	22
121−75−5	New York DEC	Saltwater Sediment Class A	Not specified	0.00042	23

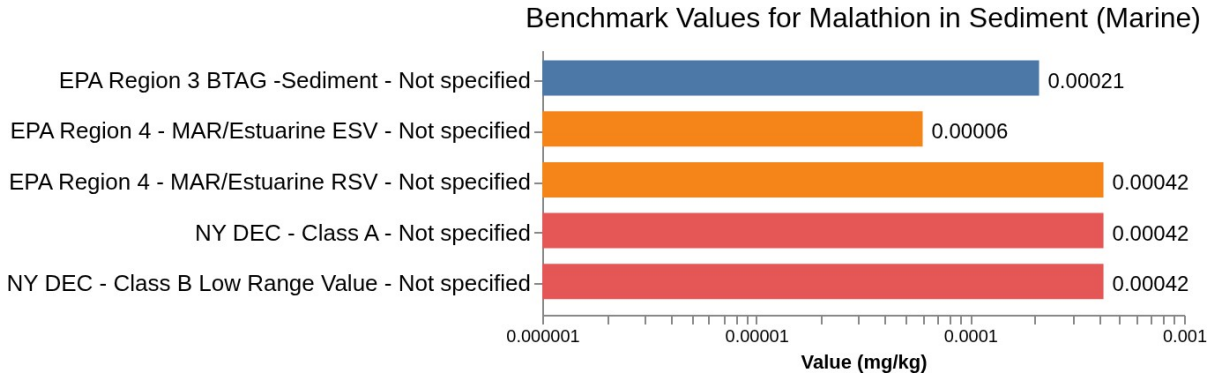


Table 144: Benchmark Values for Mercury (elemental) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7439−97−6	Canada	Sediment Marine ISQG	Not specified	0.130	
7439−97−6	Canada	Sediment Marine PEL	Not specified	0.700	
7439−97−6	EPA Region 3	BTAG − Marine Sediment	Not specified	0.130	
7439−97−6	EPA Region 4	Marine/Estuarine ESV	Aquatic only	0.130	7
7439−97−6	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.700	7
7439−97−6	EPA Region 6	Sediment Saltwater	Not specified	0.150	
7439−97−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.430	
7439−97−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.710	
7439−97−6	Florida	Marine TEL	Not specified	0.130	
7439−97−6	Florida	Marine PEL	Not specified	0.696	
7439−97−6	New York DEC	Saltwater Sediment Class A	Not specified	0.150	23
7439−97−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.150	
7439−97−6	New York DEC	Saltwater Sediment Class C	Not specified	0.710	22
7439−97−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.710	
7439−97−6	Washington	Marine Sediment Cleanup Objective	Not specified	0.410	
7439−97−6	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.590	

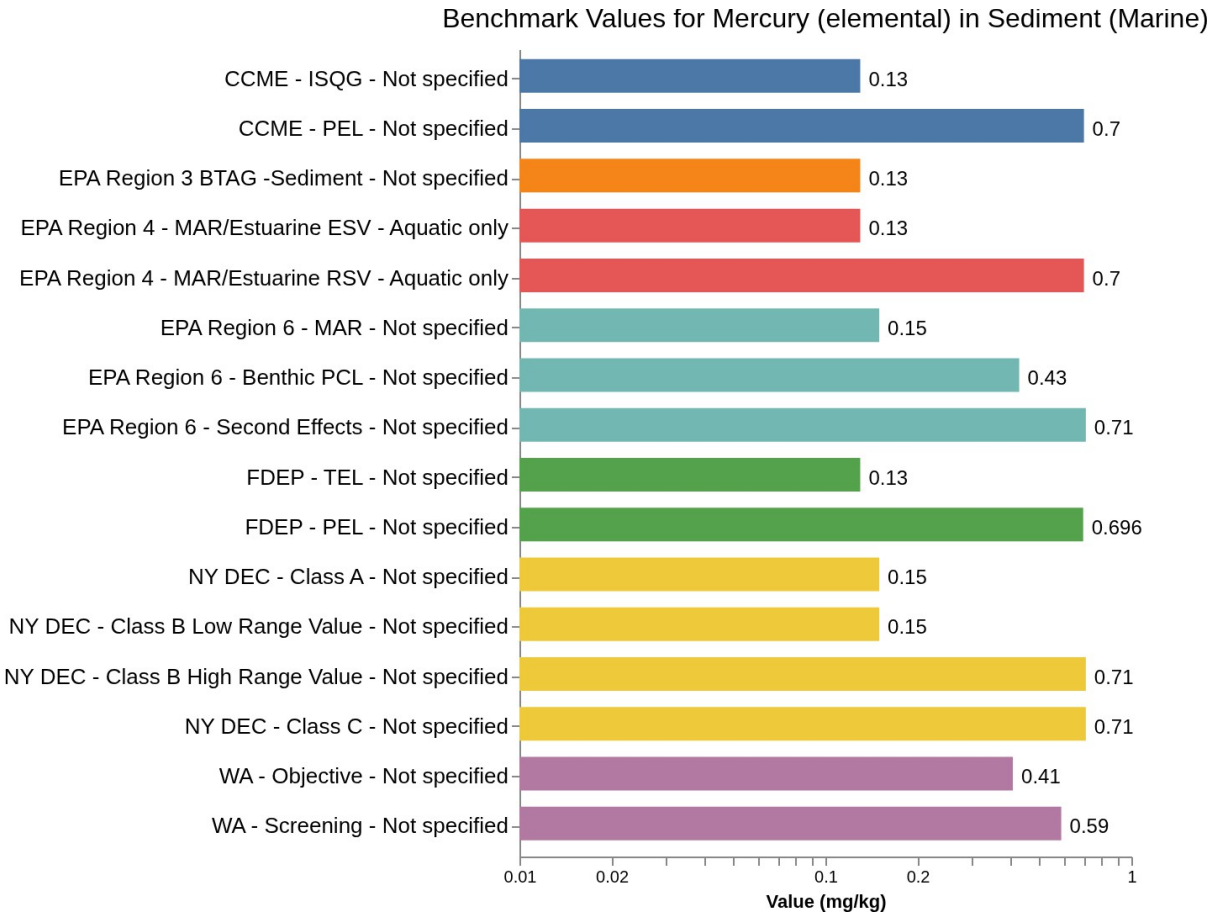


Table 145: Benchmark Values for Methanol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
67−56−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	34.983

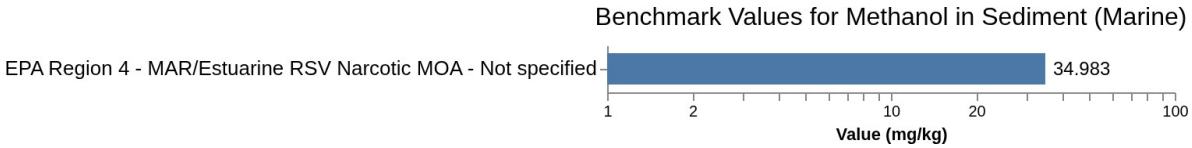


Table 146: Benchmark Values for Methoxychlor in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
72−43−5	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0296	
72−43−5	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.0021	7
72−43−5	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.0590	7, 28
72−43−5	New York DEC	Saltwater Sediment Class A	Not specified	0.0590	23
72−43−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.0590	22

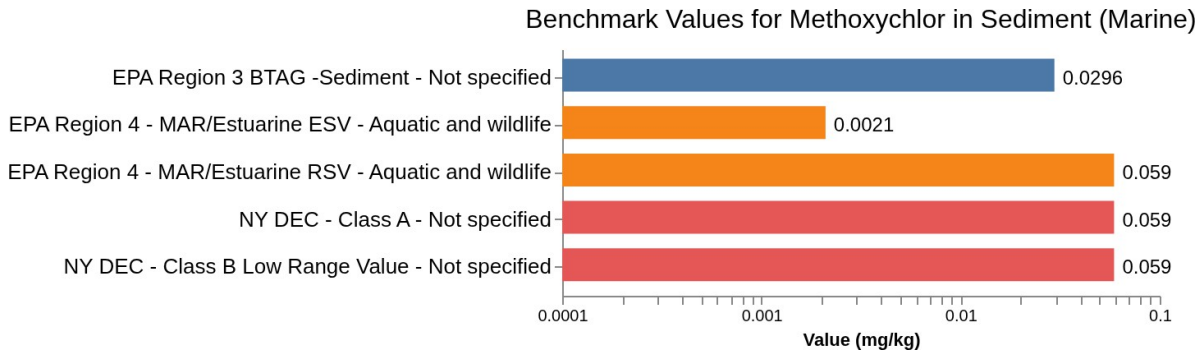


Table 147: Benchmark Values for Methyl Ethyl Ketone (2−Butanone) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
78−93−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	22.707

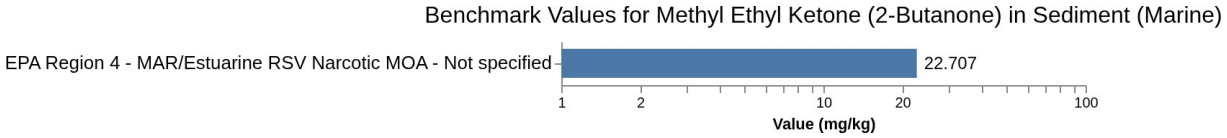


Table 148: Benchmark Values for Methyl Isobutyl Ketone (4−methyl−2−pentanone) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
108−10−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	8.165
108−10−1	EPA Region 6	Sediment Saltwater	Not specified	45.340
108−10−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	158.700
108−10−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	272.060

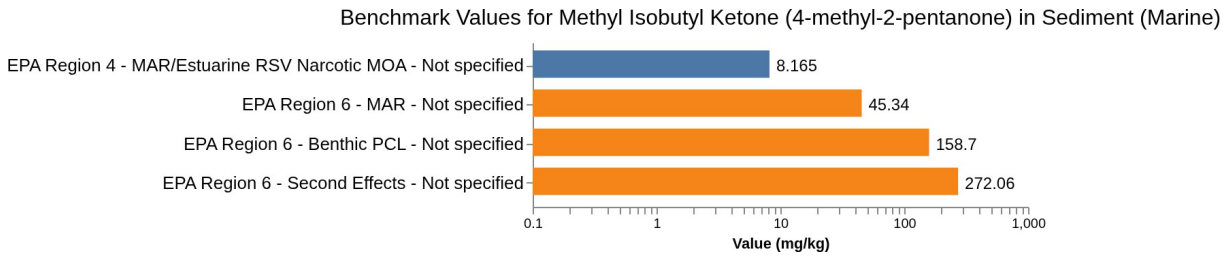


Table 149: Benchmark Values for Methyl tert−Butyl Ether (MTBE) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
1634−04−4	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	2.081
1634−04−4	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.433

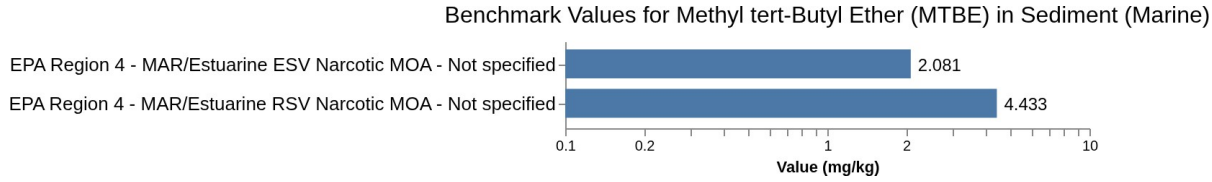


Table 150: Benchmark Values for Methylamine in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
74−89−5	EPA Region 4	Marine/Estuarine RSV	Not specified	0.586

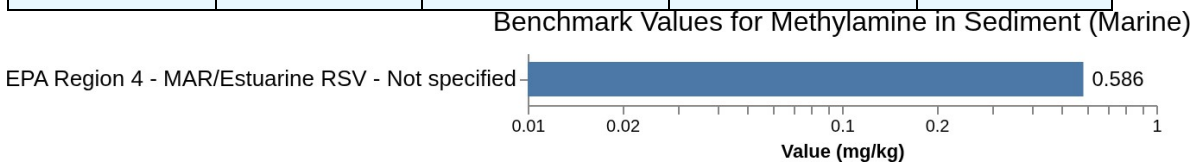


Table 151: Benchmark Values for Methylene Chloride in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−09−2	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.667
75−09−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.404
75−09−2	EPA Region 6	Sediment Saltwater	Not specified	7.650
75−09−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	15.300
75−09−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	22.940

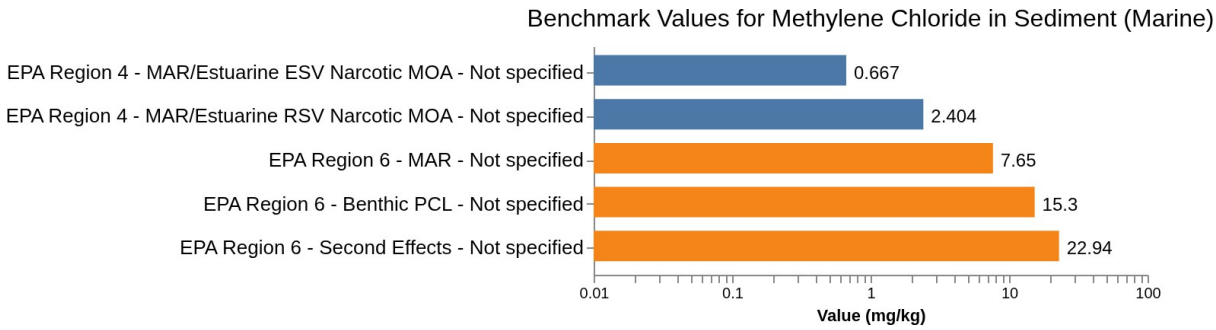


Table 152: Benchmark Values for Methylnaphthalene, 1− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
90−12−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.46

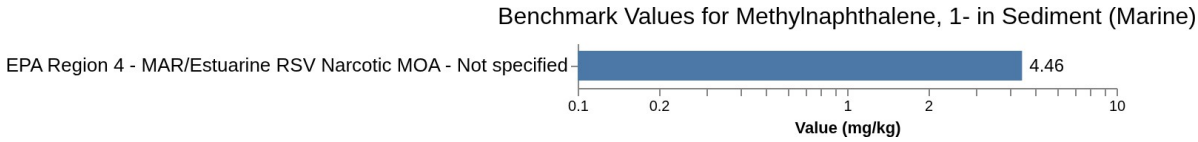


Table 153: Benchmark Values for Methylnaphthalene, 2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
91−57−6	Canada	Sediment Marine ISQG	Not specified	0.0202	
91−57−6	Canada	Sediment Marine PEL	Not specified	0.2010	
91−57−6	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0202	
91−57−6	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0202	
91−57−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.4700	
91−57−6	EPA Region 6	Sediment Saltwater	Not specified	0.0700	
91−57−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.3700	
91−57−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.6700	
91−57−6	Florida	Marine TEL	Not specified	0.0202	
91−57−6	Florida	Marine PEL	Not specified	0.2010	
91−57−6	Washington	Marine Sediment Cleanup Objective	Not specified	0.3800	34
91−57−6	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.6400	34

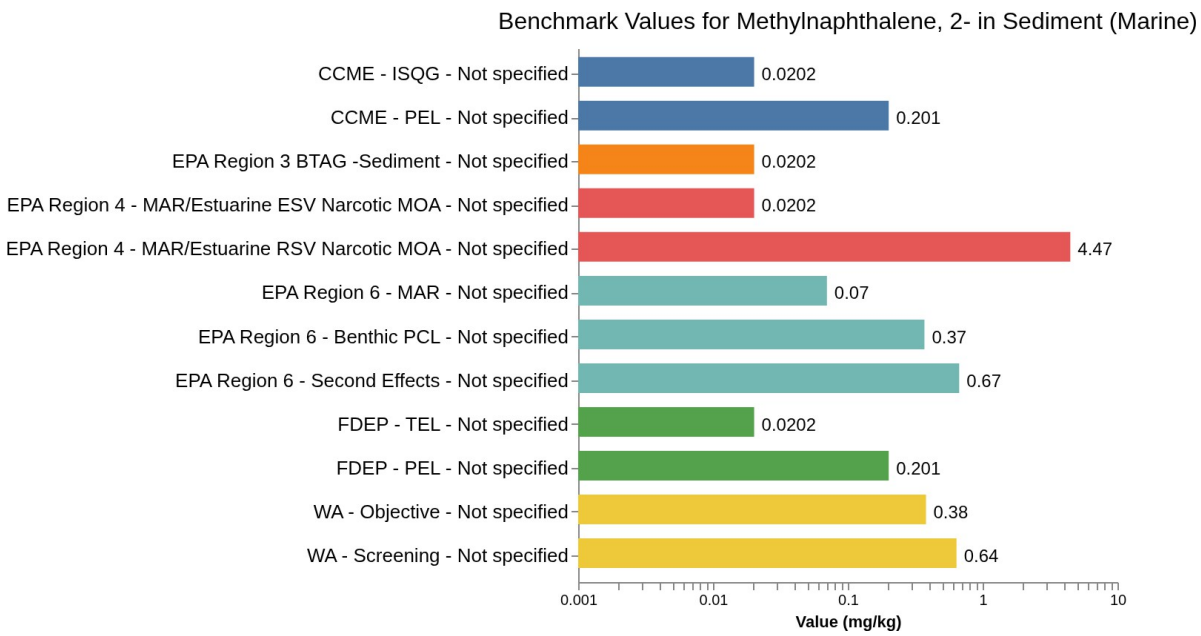


Table 154: Benchmark Values for Metolachlor in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
51218−45−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.29	28
51218−45−2	New York DEC	Saltwater Sediment Class A	Not specified	0.29	23
51218−45−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.29	
51218−45−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	2.00	
51218−45−2	New York DEC	Saltwater Sediment Class C	Not specified	2.00	22

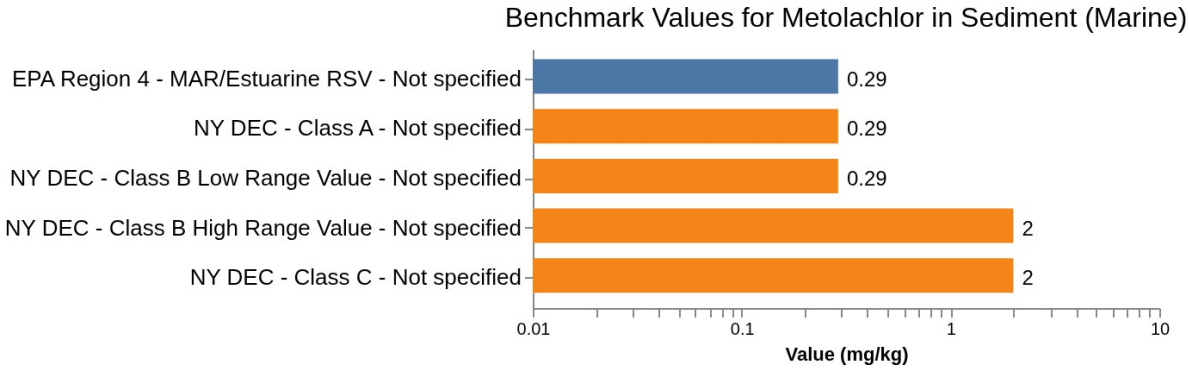


Table 155: Benchmark Values for Mirex in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
2385−85−5	EPA Region 4	Marine/Estuarine ESV	Aquatic only	0.0036	7
2385−85−5	EPA Region 4	Marine/Estuarine ESV	Wildlife only	0.0036	7
2385−85−5	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.1200	7, 28
2385−85−5	EPA Region 4	Marine/Estuarine RSV	Wildlife only	0.1200	7, 28
2385−85−5	New York DEC	Saltwater Sediment Class A	Not specified	0.1200	23
2385−85−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.1200	22

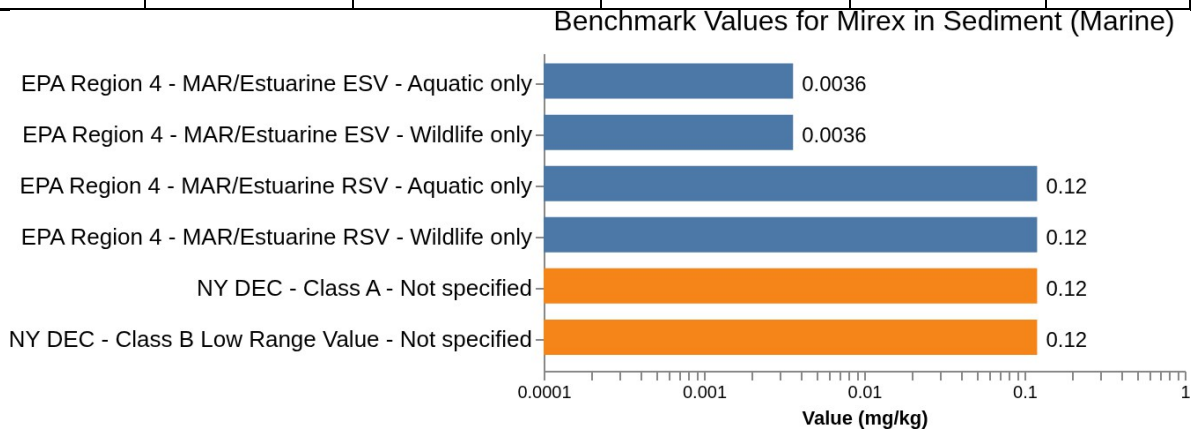


Table 156: Benchmark Values for Naphthalene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
91−20−3	Canada	Sediment Marine ISQG	Not specified	0.0346	
91−20−3	Canada	Sediment Marine PEL	Not specified	0.3910	
91−20−3	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0346	
91−20−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0350	
91−20−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	3.8500	
91−20−3	EPA Region 6	Sediment Saltwater	Not specified	0.1600	
91−20−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.1300	
91−20−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.1000	
91−20−3	Florida	Marine TEL	Not specified	0.0346	
91−20−3	Florida	Marine PEL	Not specified	0.3910	
91−20−3	Washington	Marine Sediment Cleanup Objective	Not specified	0.9900	34
91−20−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	1.7000	34

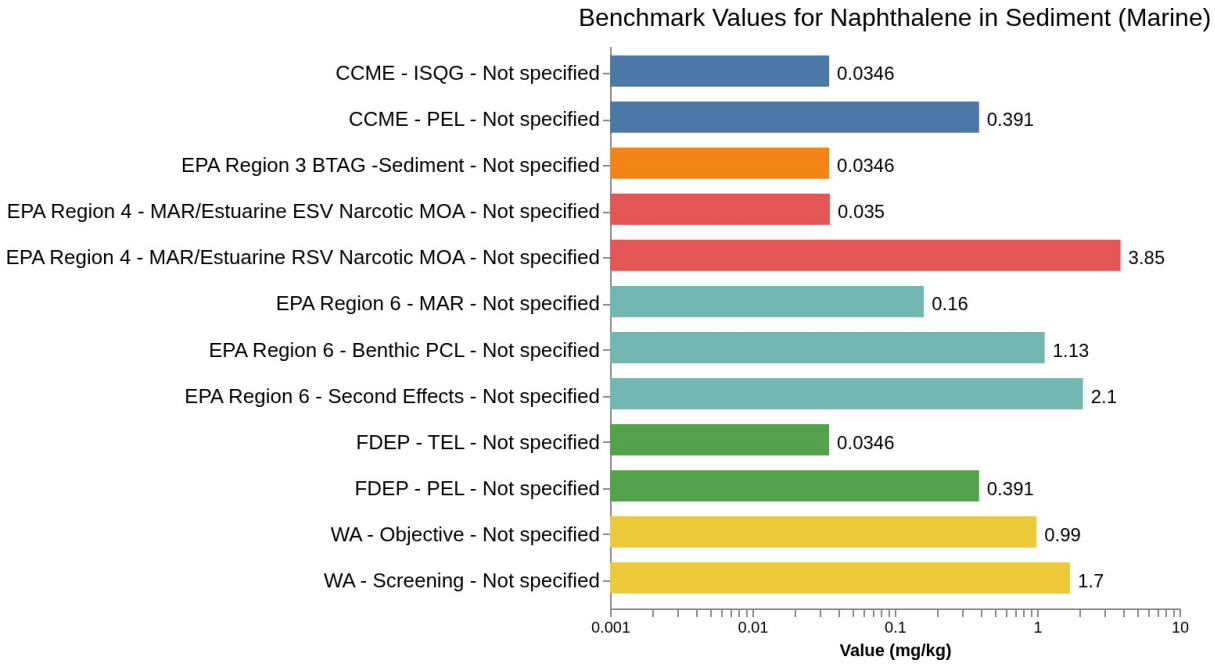


Table 157: Benchmark Values for Nickel Soluble Salts in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−02−0	British Columbia	Marine Sediment LTC — No Effect	Not specified	30.00	
7440−02−0	British Columbia	Marine Sediment LTC — Probable Effect	Not specified	50.00	
7440−02−0	EPA Region 3	BTAG − Marine Sediment	Not specified	15.90	
7440−02−0	EPA Region 4	Marine/Estuarine ESV	Not specified	15.90	
7440−02−0	EPA Region 4	Marine/Estuarine RSV	Not specified	42.80	
7440−02−0	EPA Region 6	Sediment Saltwater	Not specified	20.90	
7440−02−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	36.25	
7440−02−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	51.60	
7440−02−0	Florida	Marine TEL	Not specified	15.90	
7440−02−0	Florida	Marine PEL	Not specified	42.80	
7440−02−0	New York DEC	Saltwater Sediment Class A	Not specified	21.00	23
7440−02−0	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	21.00	
7440−02−0	New York DEC	Saltwater Sediment Class C	Not specified	52.00	22
7440−02−0	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	52.00	

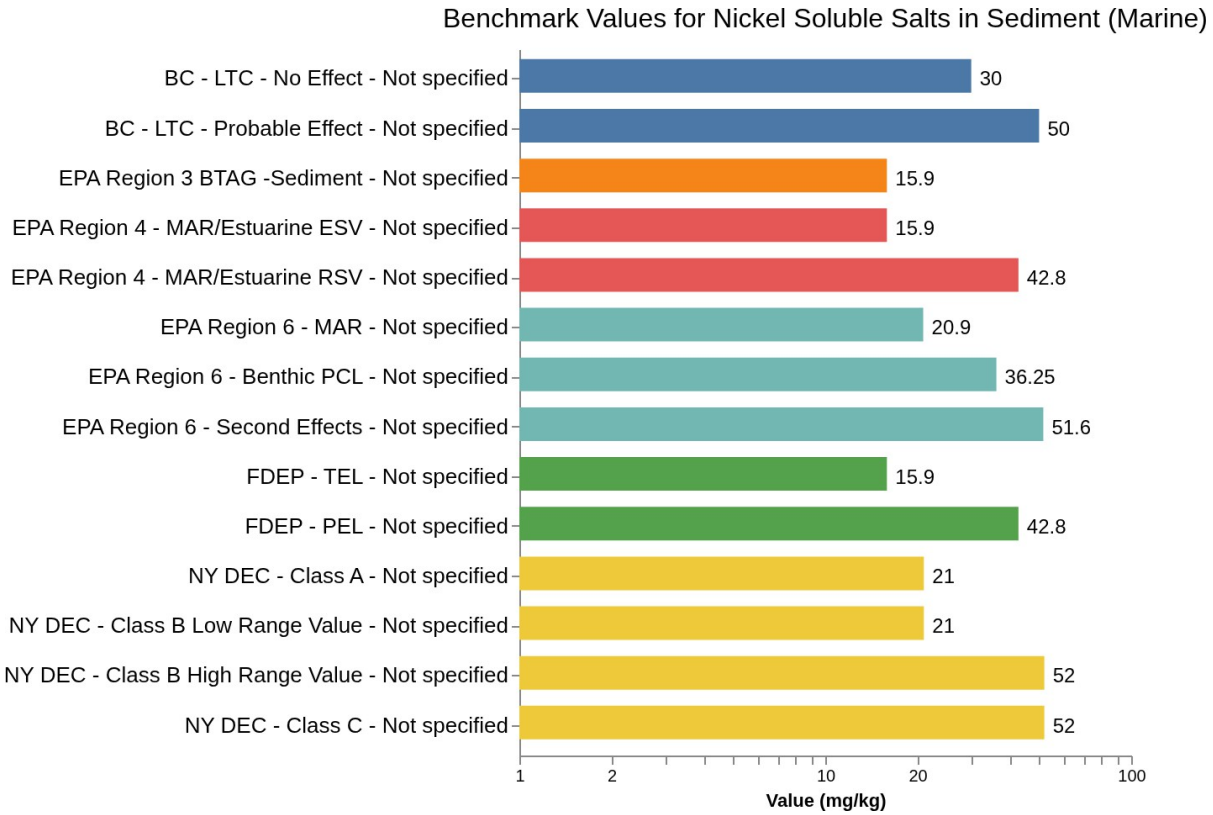


Table 158: Benchmark Values for Nitrobenzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
98−95−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	1.853
98−95−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	9.007
98−95−3	EPA Region 6	Sediment Saltwater	Not specified	2.670
98−95−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.300
98−95−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	8.000

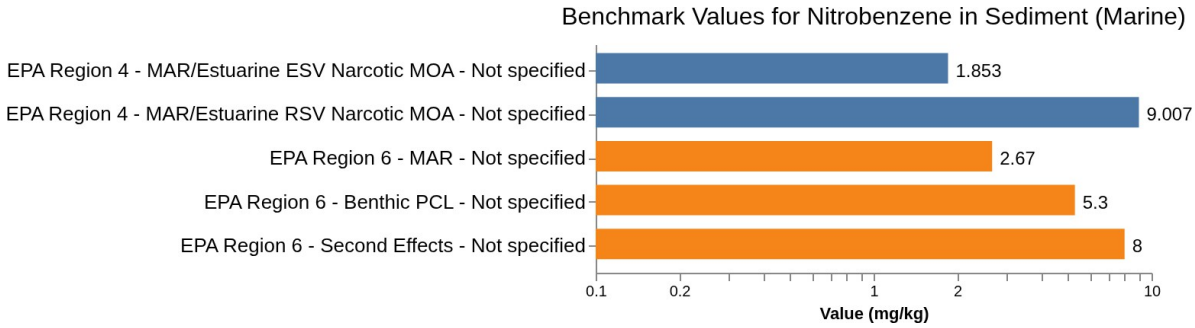


Table 159: Benchmark Values for Nitroglycerin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
55−63−0	EPA Region 4	Marine/Estuarine ESV	Not specified	0.133
55−63−0	EPA Region 4	Marine/Estuarine RSV	Not specified	12.704

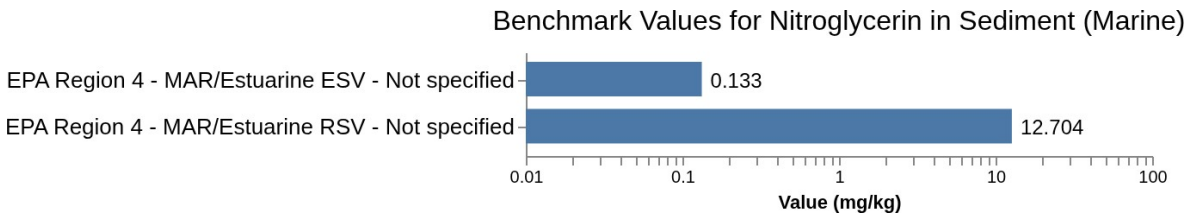


Table 160: Benchmark Values for Nitrophenol, 2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
88−75−5	EPA Region 4	Marine/Estuarine ESV	Not specified	2.070
88−75−5	EPA Region 4	Marine/Estuarine RSV	Not specified	3.589

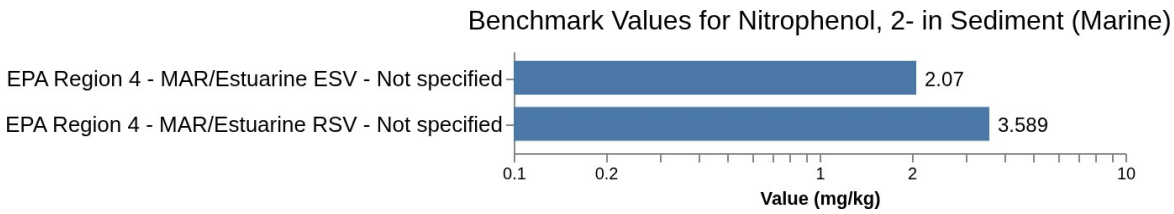


Table 161: Benchmark Values for Nitrophenol, 4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
100−02−7	EPA Region 4	Marine/Estuarine ESV	Not specified	1.579
100−02−7	EPA Region 4	Marine/Estuarine RSV	Not specified	4.105

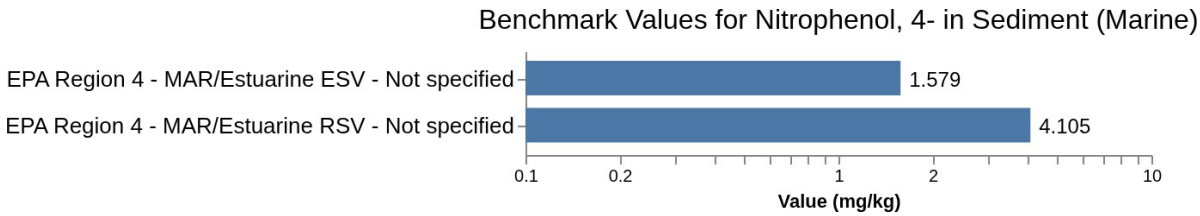


Table 162: Benchmark Values for Nitrosodiphenylamine, N− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
86−30−6	EPA Region 3	BTAG − Marine Sediment	Not specified	422.000	
86−30−6	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.211	
86−30−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.370	
86−30−6	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.110	34
86−30−6	Washington	Marine Sediment Cleanup Objective	Not specified	0.110	34

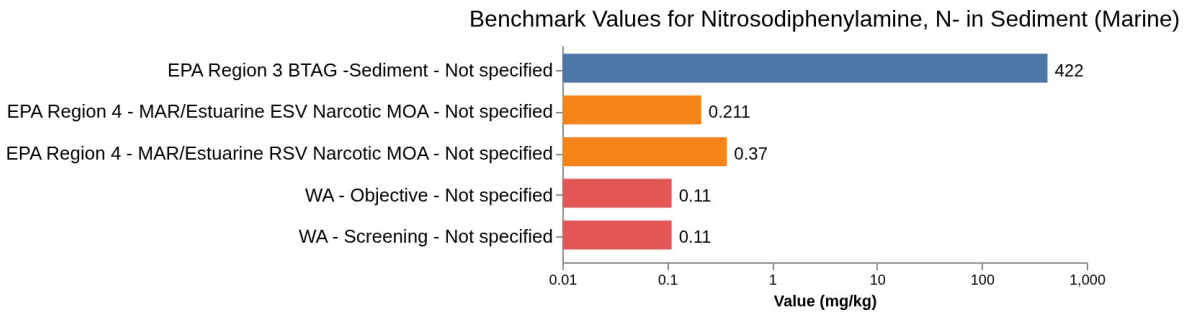


Table 163: Benchmark Values for Nitrotoluene, m− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
99−08−1	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	4.787
99−08−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	5.995

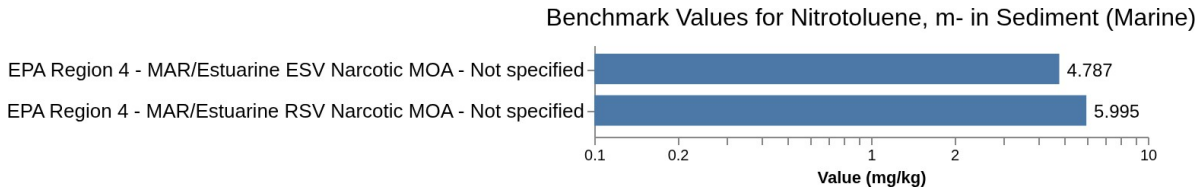


Table 164: Benchmark Values for Nitrotoluene, o− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
88−72−2	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	3.448
88−72−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	5.042

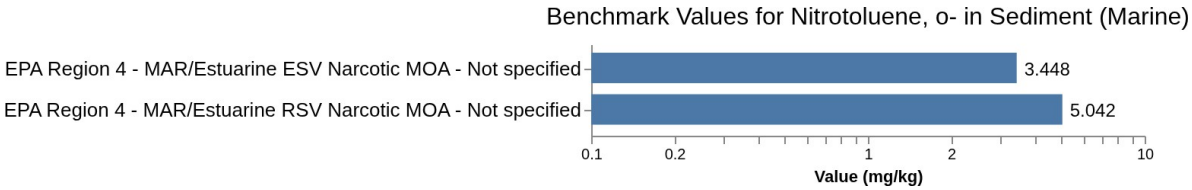


Table 165: Benchmark Values for Nitrotoluene, p− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
99−99−0	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	4.534
99−99−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	5.465

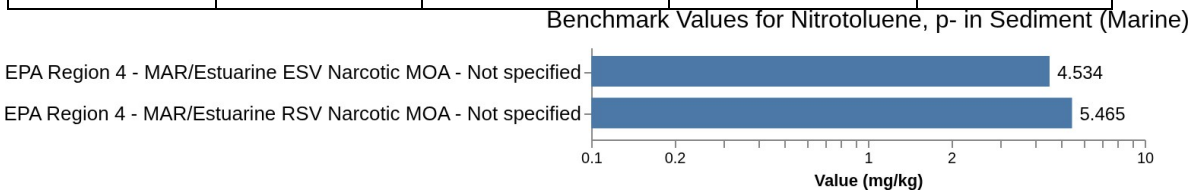


Table 166: Benchmark Values for Nonylphenol (branched) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
84852−15−3	Canada	Sediment Marine ISQG	Not specified	1.0

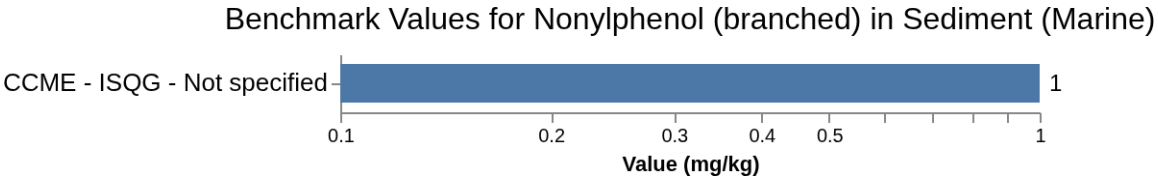


Table 167: Benchmark Values for Nonylphenol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
25154−52−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.203	
25154−52−3	EPA Region 6	Sediment Saltwater	Not specified	1.000	
25154−52−3	New York DEC	Saltwater Sediment Class A	Not specified	14.000	23
25154−52−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	14.000	
25154−52−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	57.000	
25154−52−3	New York DEC	Saltwater Sediment Class C	Not specified	57.000	22

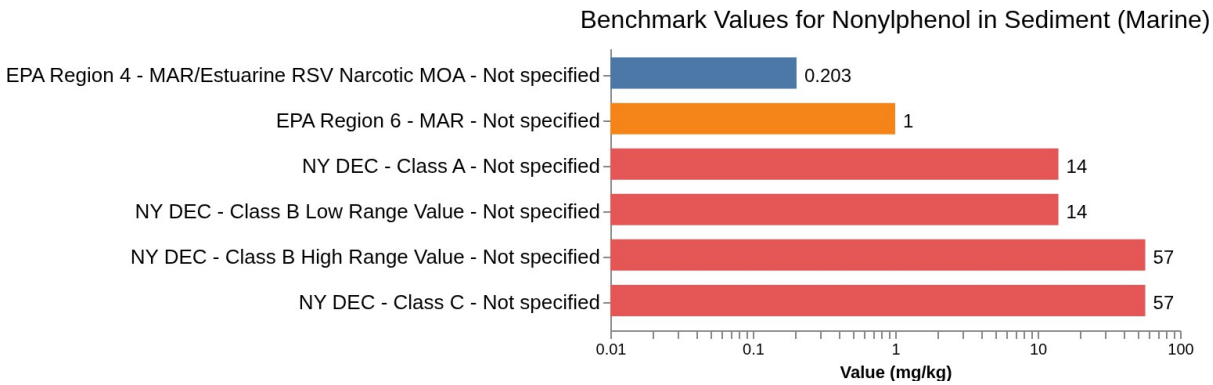


Table 168: Benchmark Values for Octahydro−1,3,5,7−tetranitro−1,3,5,7−tetrazocine (HMX) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
2691−41−0	EPA Region 4	Marine/Estuarine ESV	Not specified	0.162
2691−41−0	EPA Region 4	Marine/Estuarine RSV	Not specified	64.709

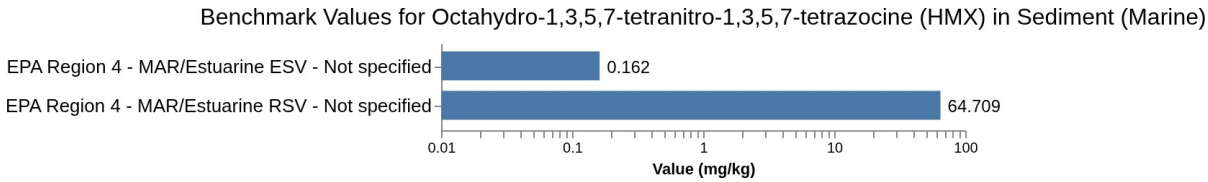


Table 169: Benchmark Values for Octanone, 2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
111−13−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.24

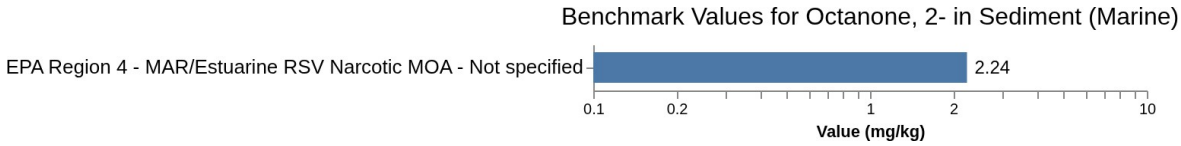


Table 170: Benchmark Values for Octyl Phthalate, di−N− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
117−84−0	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.58	
117−84−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	45.00	
117−84−0	EPA Region 6	Sediment Saltwater	Not specified	0.58	
117−84−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	22.79	
117−84−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	45.00	
117−84−0	Washington	Marine Sediment Cleanup Objective	Not specified	0.58	34
117−84−0	Washington	Marine Sediment Cleanup Screening Level	Not specified	45.00	34

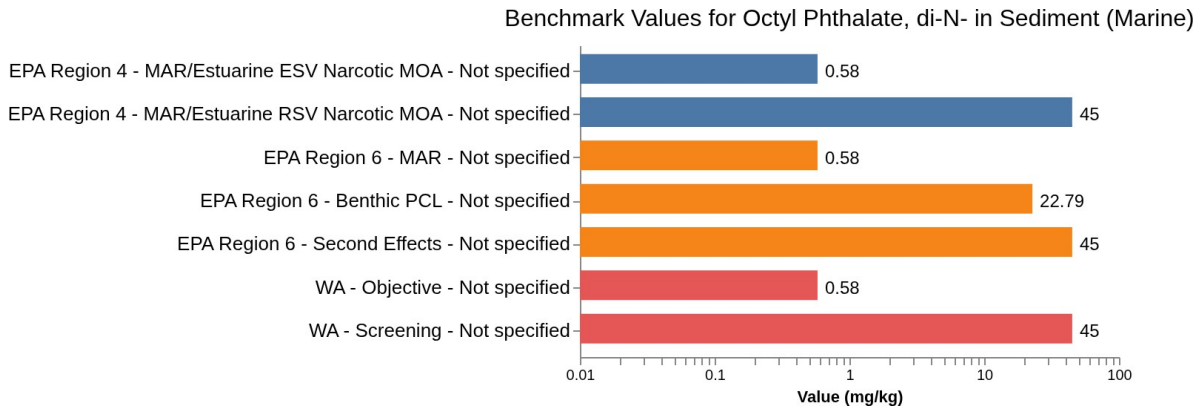


Table 171: Benchmark Values for Parathion in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
56−38−2	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0104
56−38−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0006
56−38−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.0012
56−38−2	EPA Region 6	Sediment Saltwater	Not specified	0.1000
56−38−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.2000
56−38−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.3000

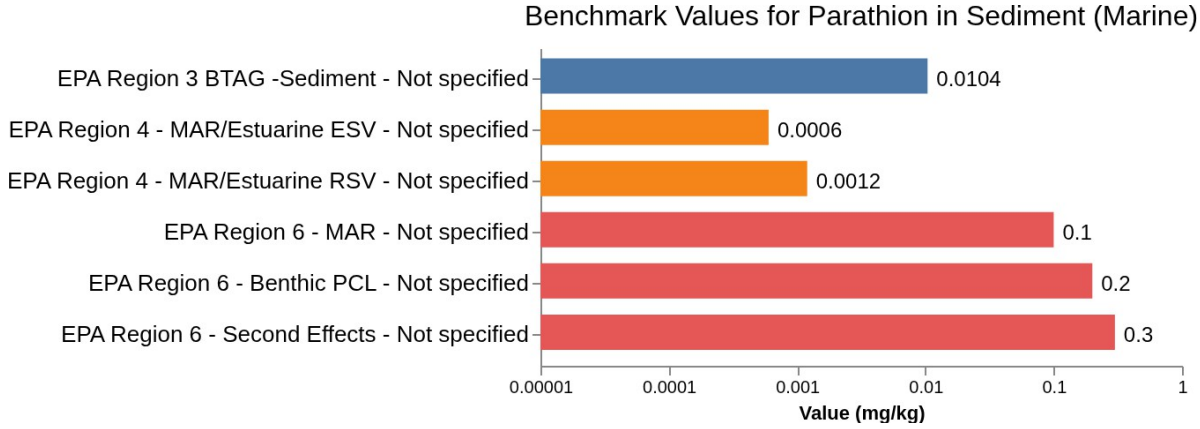


Table 172: Benchmark Values for Pendimethalin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
40487−42−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	3.6	
40487−42−1	New York DEC	Saltwater Sediment Class A	Not specified	3.6	23
40487−42−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	28.0	
40487−42−1	New York DEC	Saltwater Sediment Class C	Not specified	28.0	22

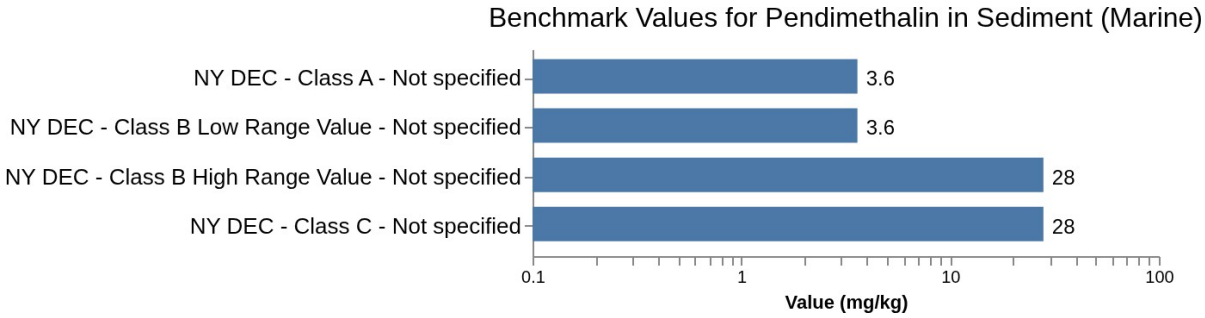


Table 173: Benchmark Values for Pentachloroaniline in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
527−20−8	EPA Region 4	Marine/Estuarine RSV	Not specified	0.621

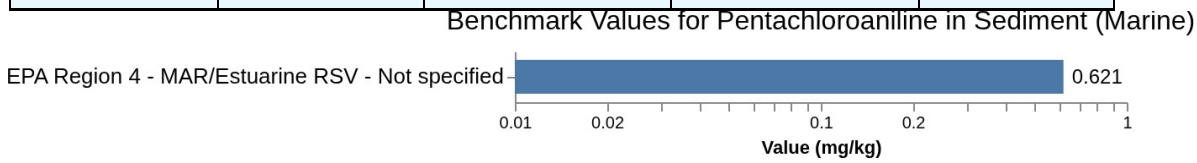


Table 174: Benchmark Values for Pentachlorobenzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
608−93−5	EPA Region 3	BTAG − Marine Sediment	Not specified	191.000	
608−93−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.036	7
608−93−5	EPA Region 6	Sediment Saltwater	Not specified	1.460	
608−93−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	22.910	
608−93−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	44.350	
608−93−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.100	
608−93−5	New York DEC	Saltwater Sediment Class A	Not specified	1.100	23
608−93−5	New York DEC	Saltwater Sediment Class C	Not specified	14.000	22
608−93−5	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	14.000	

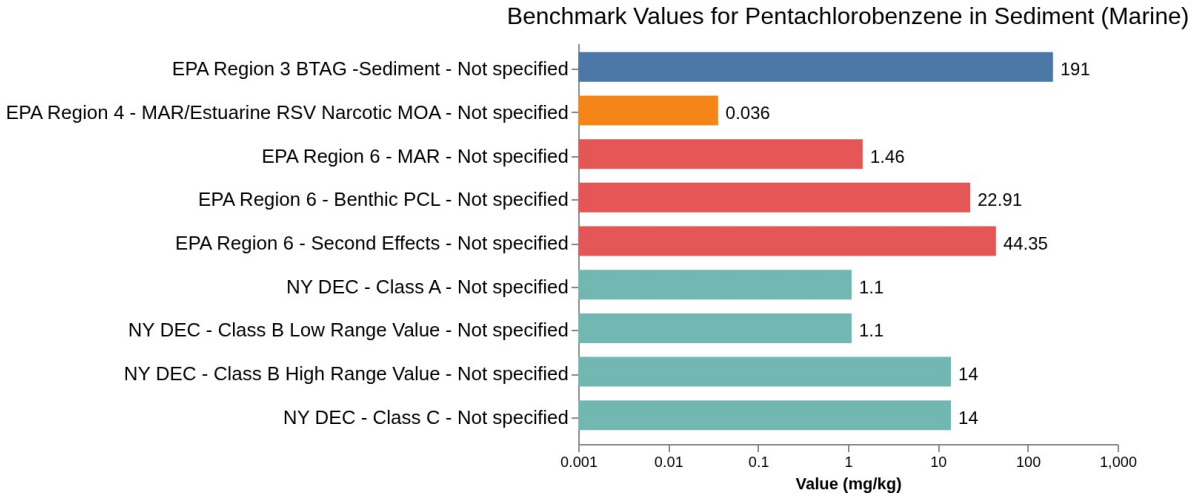


Table 175: Benchmark Values for Pentachlorophenol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
87−86−5	EPA Region 3	BTAG − Marine Sediment	Not specified	7.970	
87−86−5	EPA Region 4	Marine/Estuarine ESV	Aquatic only	0.360	7, 28
87−86−5	EPA Region 4	Marine/Estuarine RSV	Aquatic only	0.394	7
87−86−5	EPA Region 6	Sediment Saltwater	Not specified	0.360	
87−86−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.530	
87−86−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.690	
87−86−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	21.000	
87−86−5	New York DEC	Saltwater Sediment Class A	Not specified	21.000	23
87−86−5	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	32.000	
87−86−5	New York DEC	Saltwater Sediment Class C	Not specified	32.000	22
87−86−5	Washington	Marine Sediment Cleanup Objective	Not specified	0.360	
87−86−5	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.690	

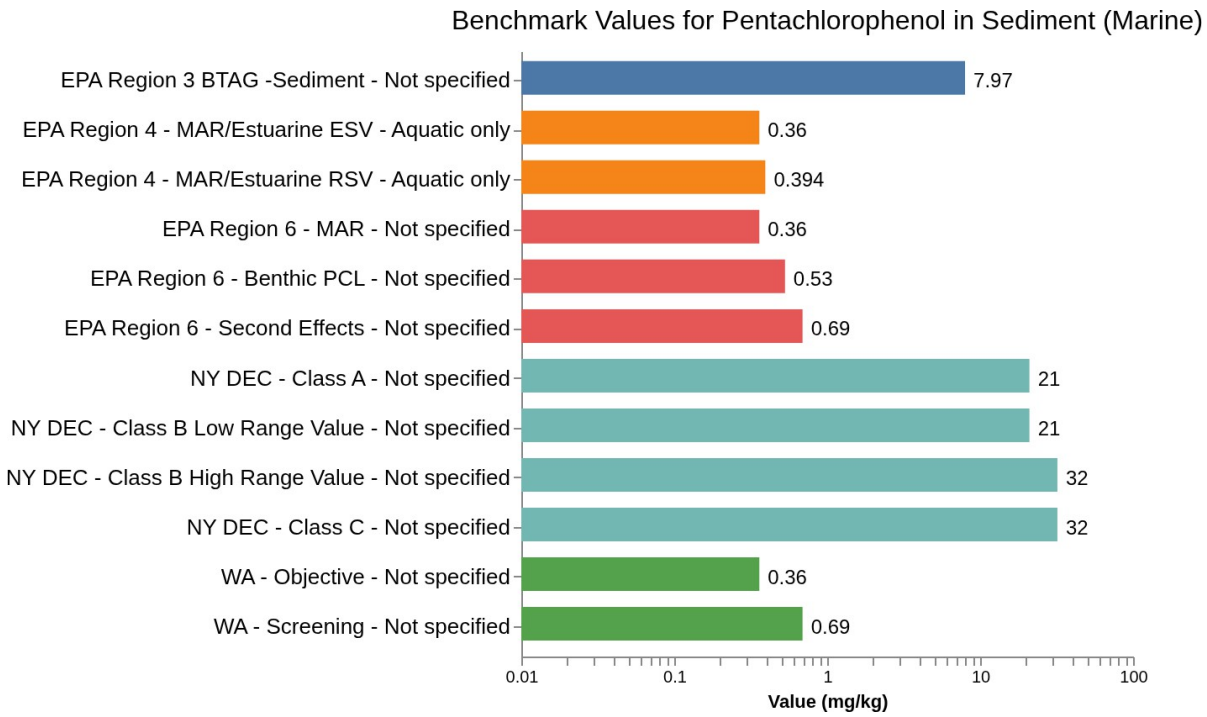


Table 176: Benchmark Values for Pentaerythritol tetranitrate (PETN) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
78−11−5	EPA Region 6	Sediment Saltwater	Not specified	203.06
78−11−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	406.10
78−11−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	609.18

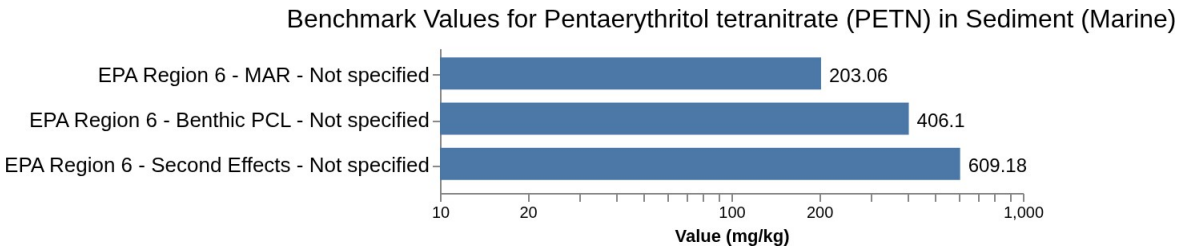


Table 177: Benchmark Values for Pentyl Alcohol, N− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
71−41−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	4.597

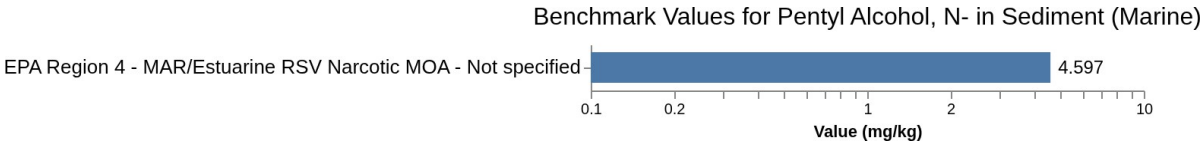


Table 178: Benchmark Values for Phenanthrene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
85−01−8	Canada	Sediment Marine ISQG	Not specified	0.0867	
85−01−8	Canada	Sediment Marine PEL	Not specified	0.5440	
85−01−8	EPA OSWER	Marine SQC	Not specified	1.1000	
85−01−8	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0867	
85−01−8	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0870	7
85−01−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	5.9600	7
85−01−8	EPA Region 6	Sediment Saltwater	Not specified	0.2400	
85−01−8	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.8700	
85−01−8	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.5000	
85−01−8	Florida	Marine TEL	Not specified	0.0867	
85−01−8	Florida	Marine PEL	Not specified	0.5440	
85−01−8	Washington	Marine Sediment Cleanup Objective	Not specified	1.0000	34
85−01−8	Washington	Marine Sediment Cleanup Screening Level	Not specified	4.8000	34

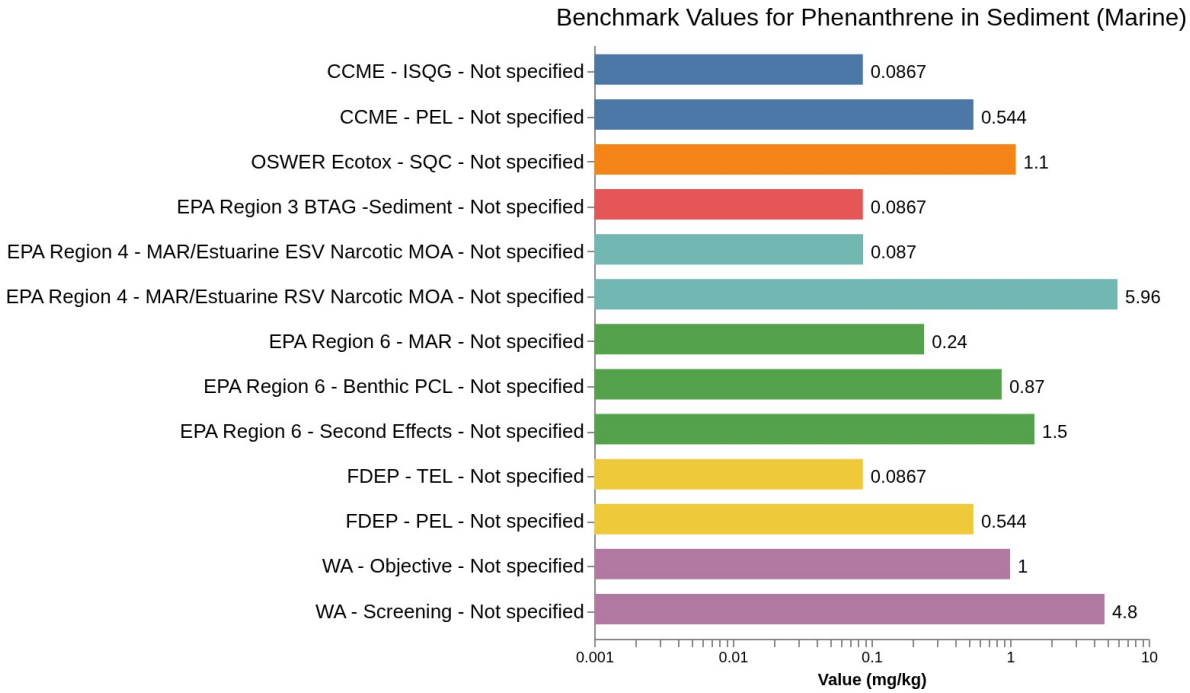


Table 179: Benchmark Values for Phenol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
108−95−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.063	
108−95−2	EPA Region 4	Marine/Estuarine RSV	Not specified	0.420	28
108−95−2	EPA Region 6	Sediment Saltwater	Not specified	0.420	
108−95−2	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.810	
108−95−2	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.200	
108−95−2	Washington	Marine Sediment Cleanup Objective	Not specified	0.420	
108−95−2	Washington	Marine Sediment Cleanup Screening Level	Not specified	1.200	

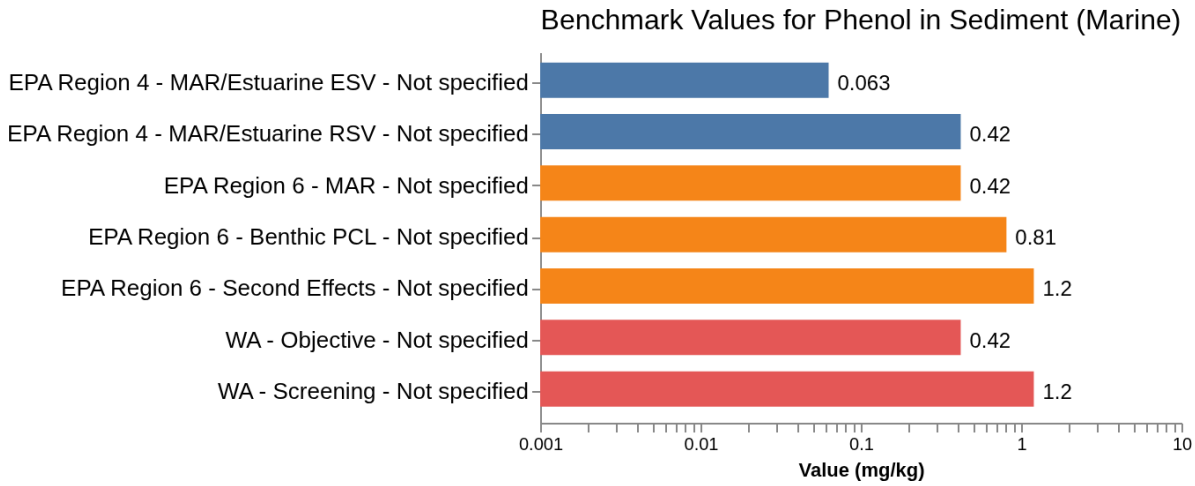


Table 180: Benchmark Values for Polybrominated diphenyl Ethers (PBDE) (total) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
000000−17−6	British Columbia	Marine Sediment LTC	Not specified	0.001

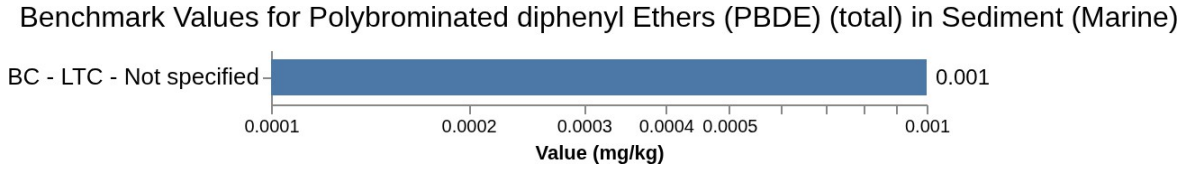


Table 181: Benchmark Values for Polychlorinated Biphenyls (high risk) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1336−36−3	Canada	Sediment Marine ISQG	Not specified	0.0215	
1336−36−3	Canada	Sediment Marine PEL	Not specified	0.1890	
1336−36−3	EPA Region 3	BTAG − Marine Sediment	Not specified	0.0400	
1336−36−3	EPA Region 4	Marine/Estuarine ESV	Wildlife only	0.0140	7
1336−36−3	EPA Region 4	Marine/Estuarine ESV	Not specified	0.0216	7, 28
1336−36−3	EPA Region 4	Marine/Estuarine RSV	Not specified	0.1890	7, 28
1336−36−3	EPA Region 6	Sediment Saltwater	Not specified	0.0227	
1336−36−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.1010	
1336−36−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.1800	
1336−36−3	Florida	Marine TEL	Not specified	0.0216	
1336−36−3	Florida	Marine PEL	Not specified	0.1890	
1336−36−3	Washington	Marine Sediment Cleanup Objective	Not specified	0.1200	34
1336−36−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.6500	34

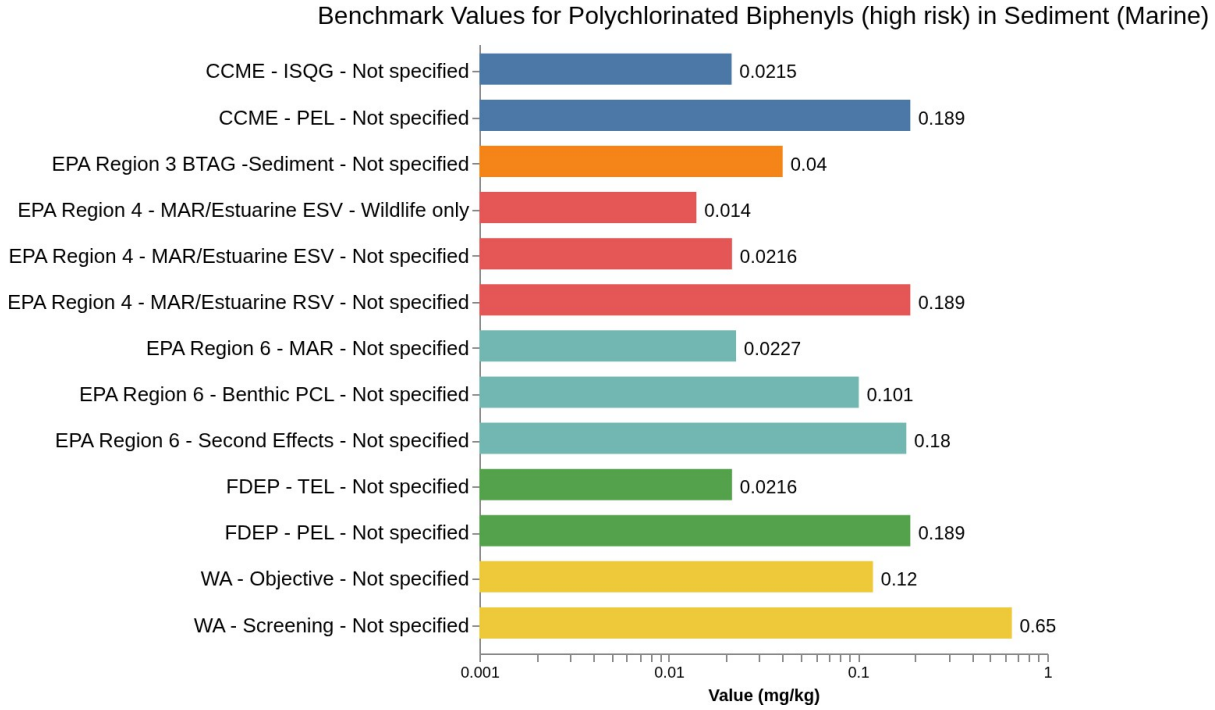


Table 182: Benchmark Values for Polychlorinated Biphenyls (PCBs) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−17−0	British Columbia	Marine Sediment LTC	Not specified	0.000004	
000000−17−0	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.100000	
000000−17−0	New York DEC	Saltwater Sediment Class A	Not specified	0.100000	23
000000−17−0	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.000000	
000000−17−0	New York DEC	Saltwater Sediment Class C	Not specified	1.000000	22

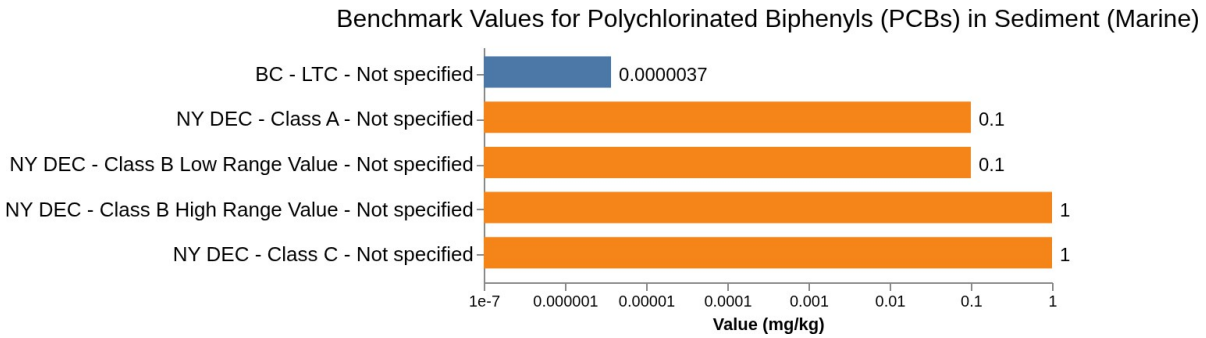


Table 183: Benchmark Values for Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−03−4	EPA Region 3	BTAG − Marine Sediment	Not specified	0.655	
000000−03−4	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.655	
000000−03−4	EPA Region 6	Sediment Saltwater	Not specified	1.700	17, 19
000000−03−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.650	17, 19
000000−03−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	9.600	17, 19
000000−03−4	Florida	Marine TEL	Not specified	0.655	
000000−03−4	Florida	Marine PEL	Not specified	6.676	
000000−03−4	Washington	Marine Sediment Cleanup Objective	Not specified	9.600	34
000000−03−4	Washington	Marine Sediment Cleanup Screening Level	Not specified	53.000	34

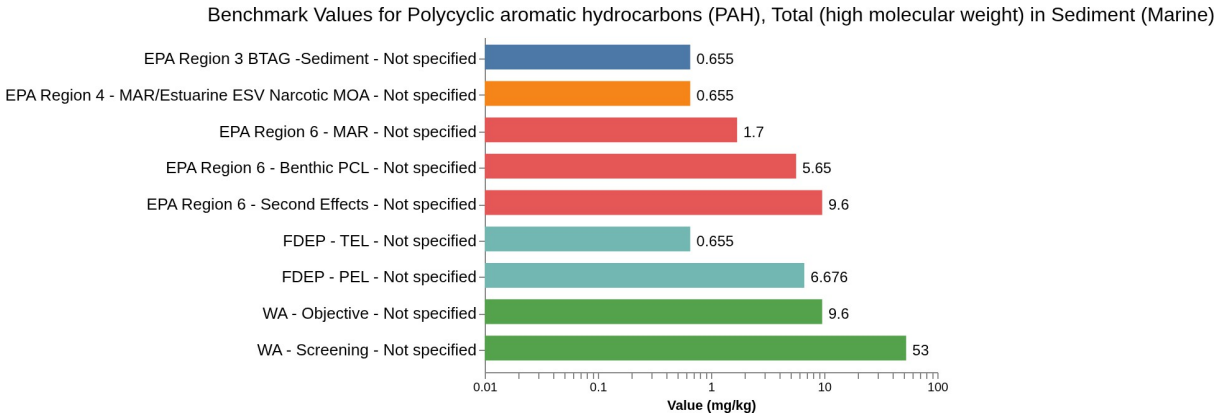


Table 184: Benchmark Values for Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight) in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−03−3	EPA Region 3	BTAG − Marine Sediment	Not specified	0.312	
000000−03−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.312	
000000−03−3	EPA Region 6	Sediment Saltwater	Not specified	0.552	17, 18
000000−03−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.860	17, 18
000000−03−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.160	17, 18
000000−03−3	Florida	Marine TEL	Not specified	0.312	
000000−03−3	Florida	Marine PEL	Not specified	1.442	
000000−03−3	Washington	Marine Sediment Cleanup Objective	Not specified	3.700	34
000000−03−3	Washington	Marine Sediment Cleanup Screening Level	Not specified	7.800	34

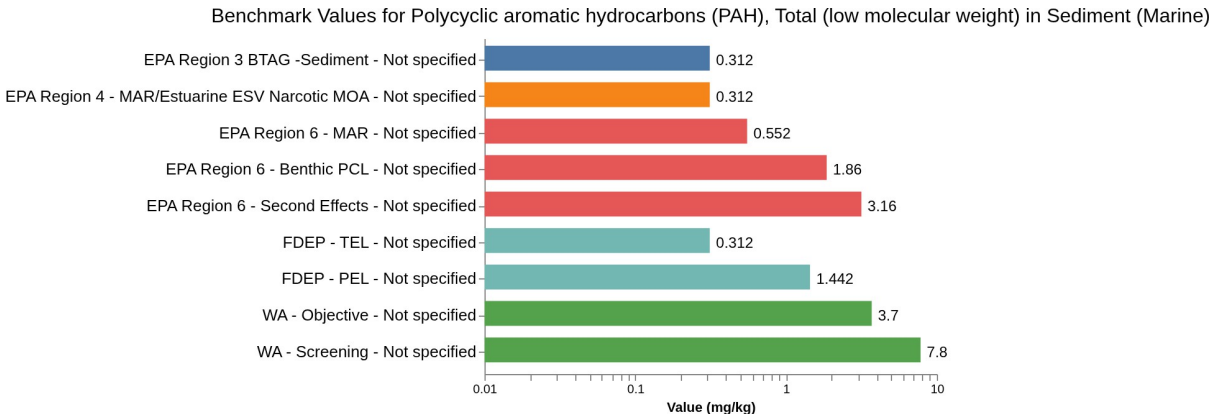


Table 185: Benchmark Values for Polycyclic aromatic hydrocarbons (PAH), Total in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
000000−04−1	EPA Region 3	BTAG − Marine Sediment	Not specified	2.900	
000000−04−1	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	1.684	
000000−04−1	EPA Region 6	Sediment Saltwater	Not specified	4.022	17, 20
000000−04−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	24.410	17, 20
000000−04−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	44.792	17, 20
000000−04−1	Florida	Marine TEL	Not specified	1.684	
000000−04−1	Florida	Marine PEL	Not specified	16.770	
000000−04−1	New York DEC	Saltwater Sediment Class A	Not specified	4.000	23
000000−04−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	4.000	
000000−04−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	45.000	
000000−04−1	New York DEC	Saltwater Sediment Class C	Not specified	45.000	22

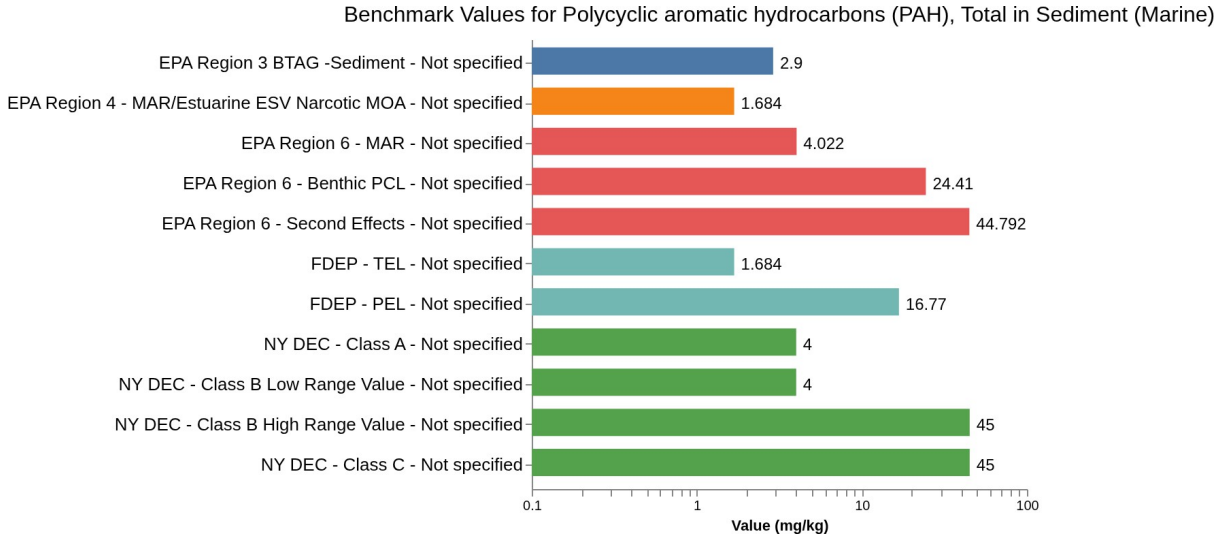


Table 186: Benchmark Values for Prometon in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1610−18−0	New York DEC	Saltwater Sediment Class A	Not specified	2.3	23
1610−18−0	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	2.3	
1610−18−0	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	16.0	
1610−18−0	New York DEC	Saltwater Sediment Class C	Not specified	16.0	22

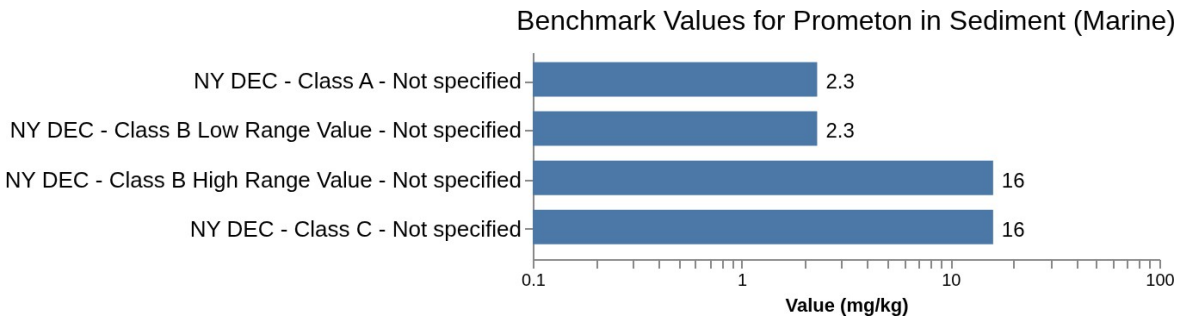


Table 187: Benchmark Values for Propylene Glycol in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
57−55−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	100.268

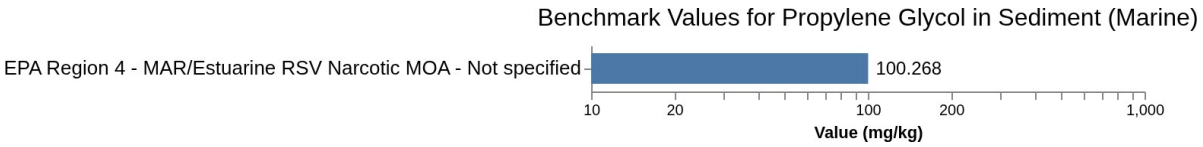


Table 188: Benchmark Values for Pyrene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
129−00−0	Canada	Sediment Marine ISQG	Not specified	0.153	
129−00−0	Canada	Sediment Marine PEL	Not specified	1.398	
129−00−0	EPA Region 3	BTAG − Marine Sediment	Not specified	0.153	
129−00−0	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.153	
129−00−0	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	6.970	
129−00−0	EPA Region 6	Sediment Saltwater	Not specified	0.665	
129−00−0	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.630	
129−00−0	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.600	
129−00−0	Florida	Marine TEL	Not specified	0.153	
129−00−0	Florida	Marine PEL	Not specified	1.398	
129−00−0	Washington	Marine Sediment Cleanup Objective	Not specified	10.000	34
129−00−0	Washington	Marine Sediment Cleanup Screening Level	Not specified	14.000	34

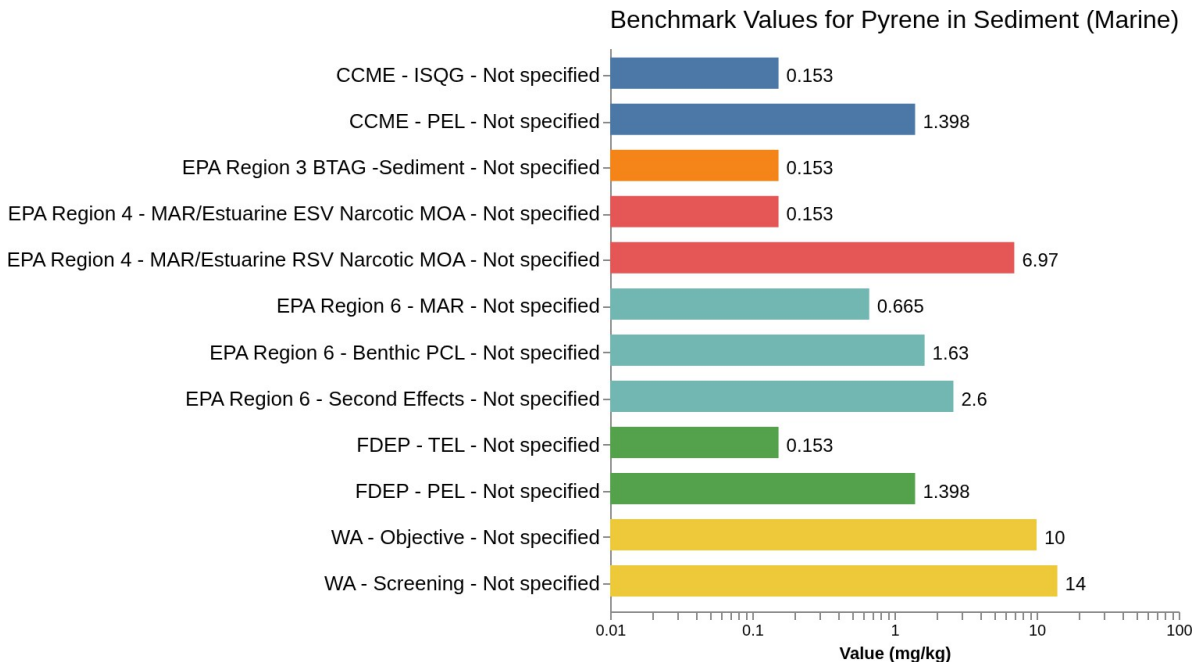


Table 189: Benchmark Values for Quinoline in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
91−22−5	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	1.435
91−22−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.398

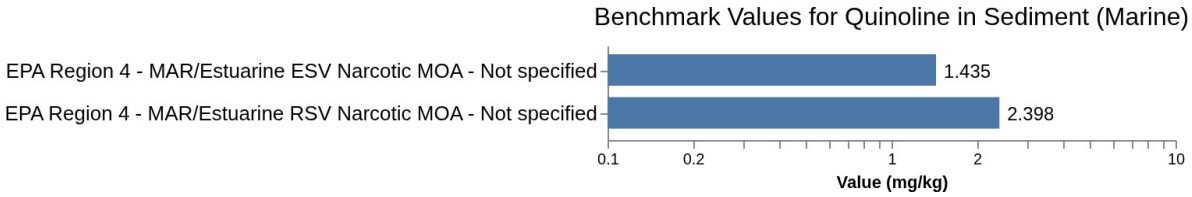


Table 190: Benchmark Values for Silver in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−22−4	British Columbia	Marine Sediment LTC — No Effect	Not specified	1.000	
7440−22−4	British Columbia	Marine Sediment LTC — Probable Effect	Not specified	2.200	
7440−22−4	EPA Region 3	BTAG − Marine Sediment	Not specified	0.730	
7440−22−4	EPA Region 4	Marine/Estuarine ESV	Not specified	0.730	
7440−22−4	EPA Region 4	Marine/Estuarine RSV	Not specified	1.770	
7440−22−4	EPA Region 6	Sediment Saltwater	Not specified	1.000	
7440−22−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.350	
7440−22−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.700	
7440−22−4	Florida	Marine TEL	Not specified	0.733	
7440−22−4	Florida	Marine PEL	Not specified	1.770	
7440−22−4	New York DEC	Saltwater Sediment Class A	Not specified	1.000	23
7440−22−4	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.000	
7440−22−4	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	3.700	
7440−22−4	New York DEC	Saltwater Sediment Class C	Not specified	3.700	22
7440−22−4	Washington	Marine Sediment Cleanup Objective	Not specified	6.100	
7440−22−4	Washington	Marine Sediment Cleanup Screening Level	Not specified	6.100	

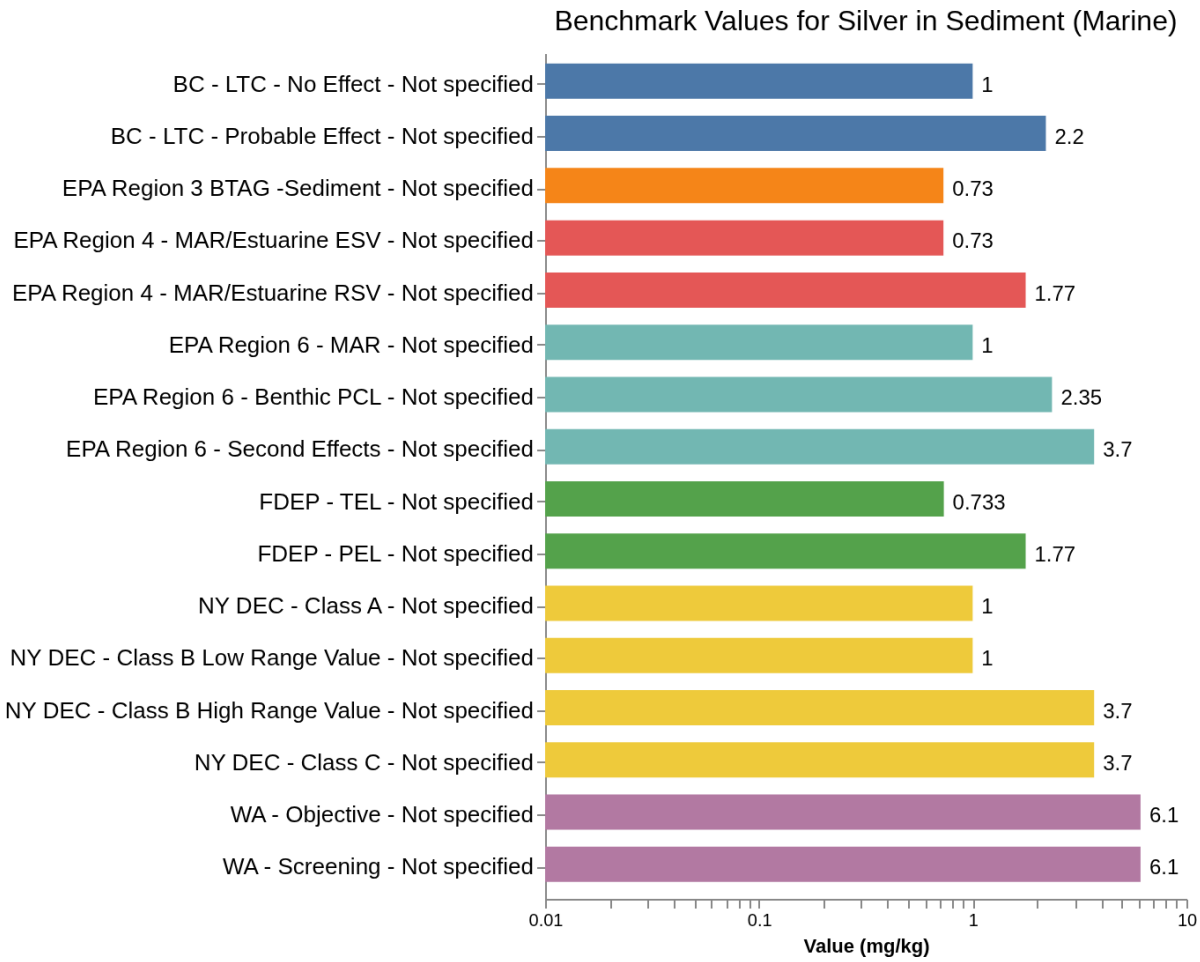


Table 191: Benchmark Values for Simazine in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
122−34−9	EPA Region 4	Marine/Estuarine RSV	Not specified	0.072

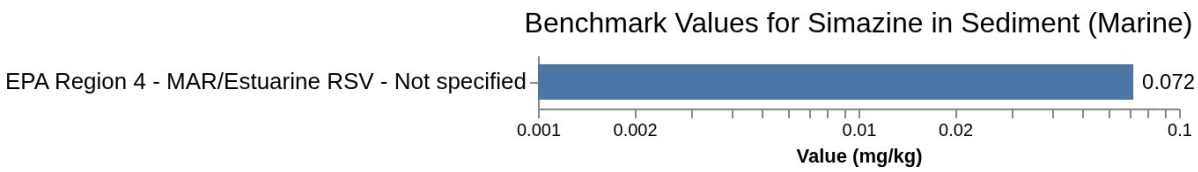


Table 192: Benchmark Values for Styrene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
100−42−5	EPA Region 3	BTAG − Marine Sediment	Not specified	7.070
100−42−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.621
100−42−5	EPA Region 6	Sediment Saltwater	Not specified	3.720
100−42−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	13.020
100−42−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	22.310

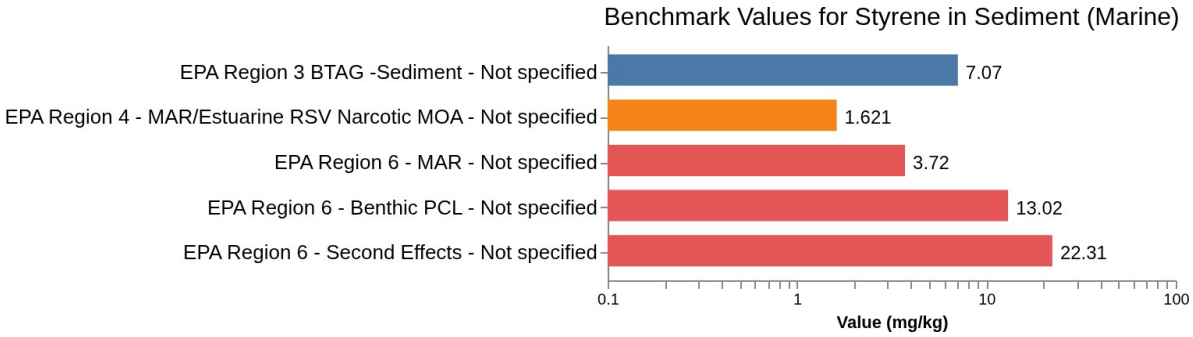


Table 193: Benchmark Values for TCDD, 2,3,7,8− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1746−01−6	EPA Region 4	Marine/Estuarine RSV	Aquatic only	5.000000e-07	7, 28
1746−01−6	EPA Region 4	Marine/Estuarine ESV	Not specified	2.500000e-06	7, 28
1746−01−6	EPA Region 4	Marine/Estuarine RSV	Not specified	2.500000e-05	7, 28

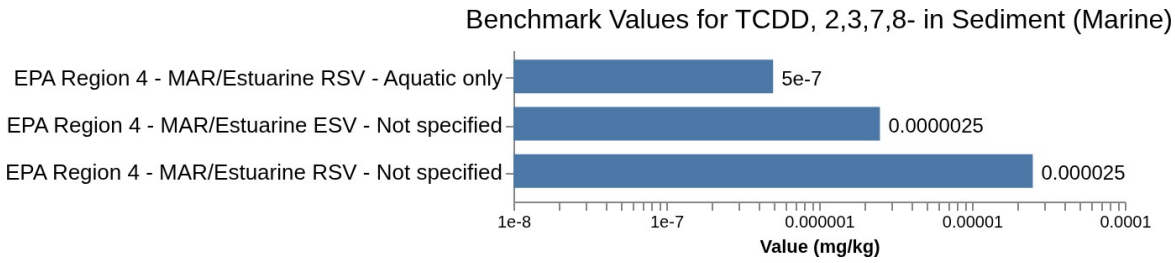


Table 194: Benchmark Values for Tetrachlorobenzene, 1,2,3,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
634−66−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.138

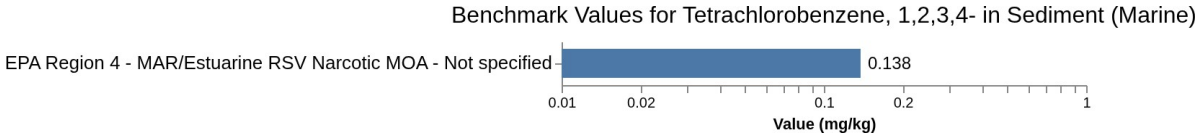


Table 195: Benchmark Values for Tetrachlorobenzene, 1,2,3,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
634−90−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.75	
634−90−2	New York DEC	Saltwater Sediment Class A	Not specified	0.75	23
634−90−2	New York DEC	Saltwater Sediment Class C	Not specified	5.40	22
634−90−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	5.40	

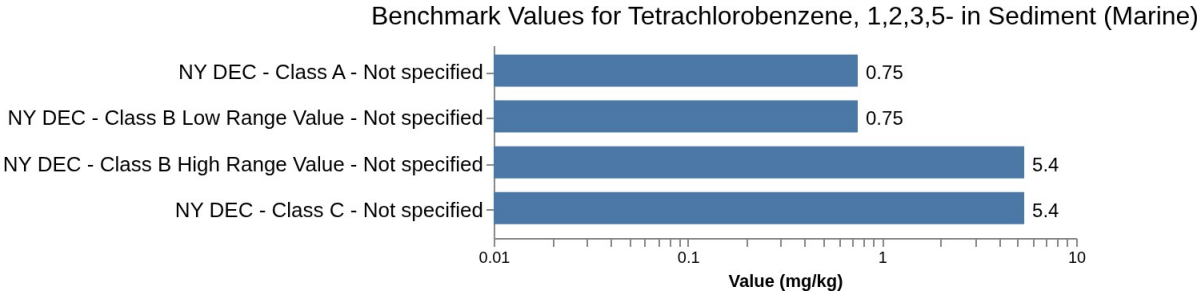


Table 196: Benchmark Values for Tetrachlorobenzene, 1,2,4,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
95−94−3	EPA Region 3	BTAG − Marine Sediment	Not specified	47.000	
95−94−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.135	
95−94−3	EPA Region 6	Sediment Saltwater	Not specified	0.055	
95−94−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.850	
95−94−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.640	
95−94−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	2.100	
95−94−3	New York DEC	Saltwater Sediment Class A	Not specified	2.100	23
95−94−3	New York DEC	Saltwater Sediment Class C	Not specified	8.500	22
95−94−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	8.500	

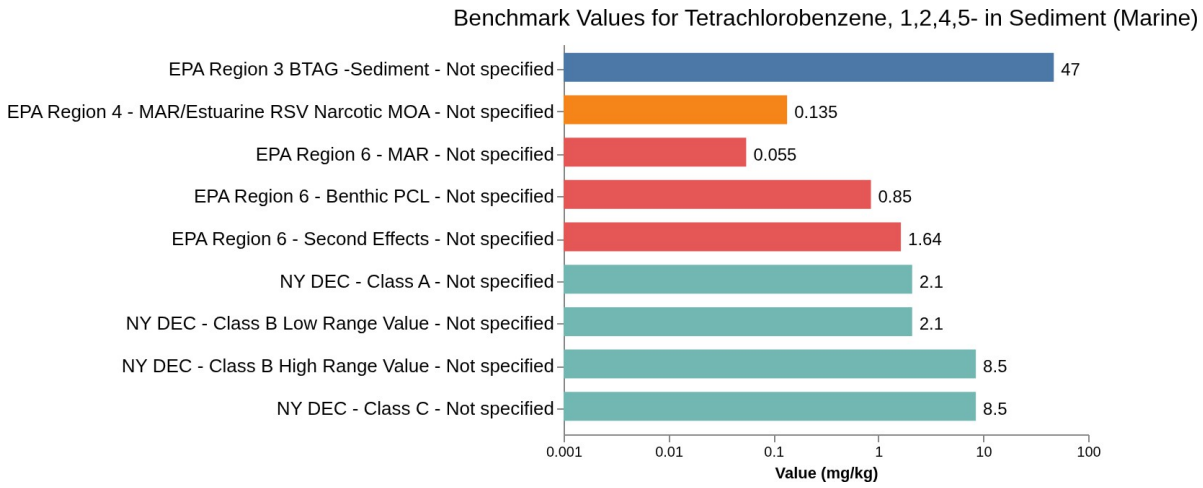


Table 197: Benchmark Values for Tetrachloroethane, 1,1,1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
630−20−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.418	
630−20−6	New York DEC	Saltwater Sediment Class A	Not specified	1.800	23
630−20−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.800	
630−20−6	New York DEC	Saltwater Sediment Class C	Not specified	5.800	22
630−20−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	5.800	

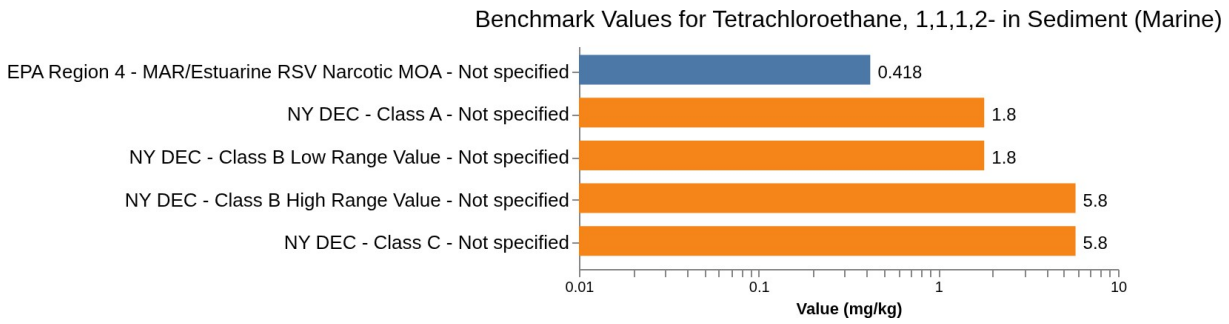


Table 198: Benchmark Values for Tetrachloroethane, 1,1,2,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
79−34−5	EPA Region 3	BTAG − Marine Sediment	Not specified	0.202	
79−34−5	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.013	
79−34−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.230	
79−34−5	EPA Region 6	Sediment Saltwater	Not specified	0.610	
79−34−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.150	
79−34−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.690	
79−34−5	New York DEC	Saltwater Sediment Class A	Not specified	0.540	23
79−34−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.540	
79−34−5	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.700	
79−34−5	New York DEC	Saltwater Sediment Class C	Not specified	1.700	22

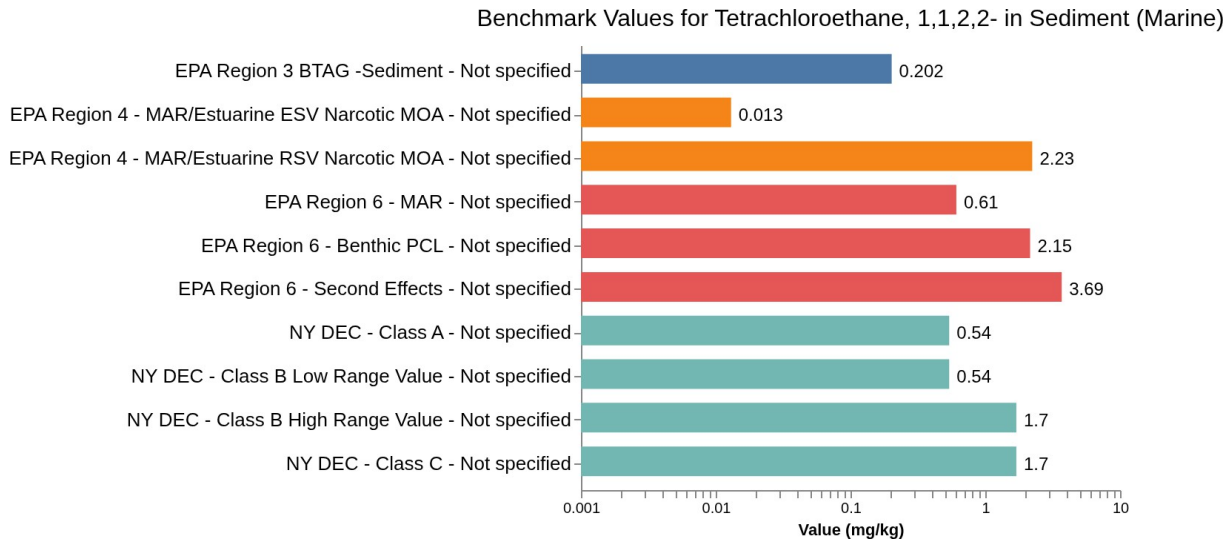


Table 199: Benchmark Values for Tetrachloroethylene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
127−18−4	EPA Region 3	BTAG − Marine Sediment	Not specified	0.190	
127−18−4	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.011	
127−18−4	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.415	
127−18−4	EPA Region 6	Sediment Saltwater	Not specified	1.070	
127−18−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	2.140	
127−18−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	3.210	
127−18−4	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	2.600	
127−18−4	New York DEC	Saltwater Sediment Class A	Not specified	2.600	23
127−18−4	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	8.800	
127−18−4	New York DEC	Saltwater Sediment Class C	Not specified	8.800	22

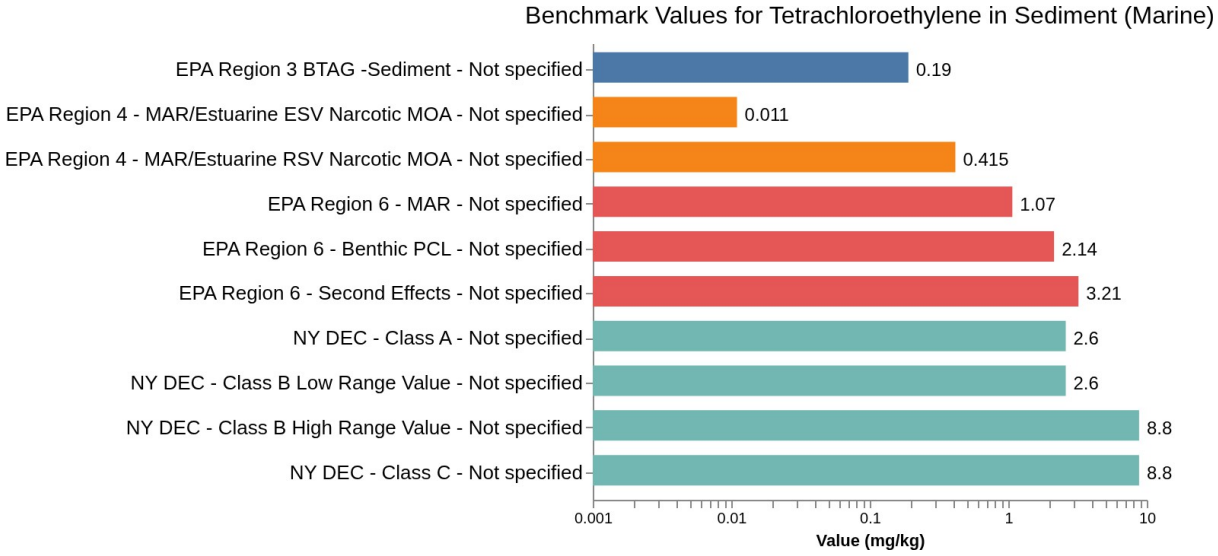


Table 200: Benchmark Values for Tetrachlorophenol, 2,3,4,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
58−90−2	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.948

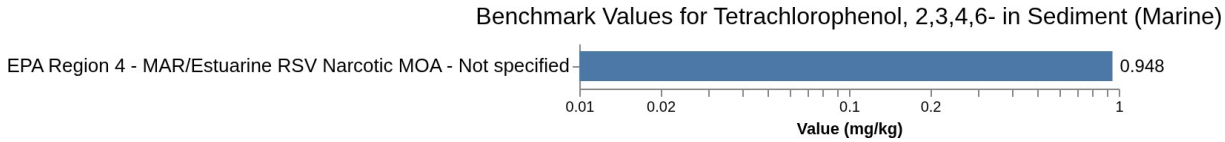


Table 201: Benchmark Values for Tetrahydrofuran in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
109−99−9	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	8.0

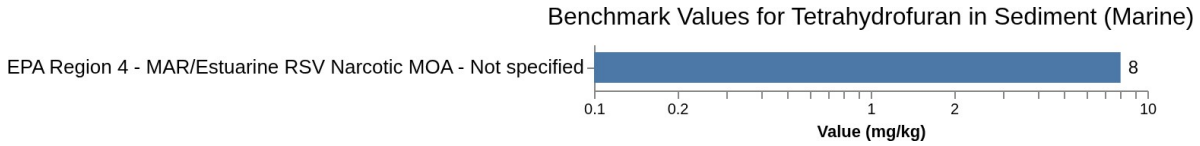


Table 202: Benchmark Values for Toluene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
108−88−3	EPA Region 3	BTAG − Marine Sediment	Not specified	1.090	
108−88−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.568	
108−88−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	2.074	
108−88−3	EPA Region 6	Sediment Saltwater	Not specified	2.580	
108−88−3	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.170	
108−88−3	EPA Region 6	Sediment Saltwater Second Effects	Not specified	7.750	
108−88−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.800	
108−88−3	New York DEC	Saltwater Sediment Class A	Not specified	0.800	23
108−88−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	3.300	
108−88−3	New York DEC	Saltwater Sediment Class C	Not specified	3.300	22

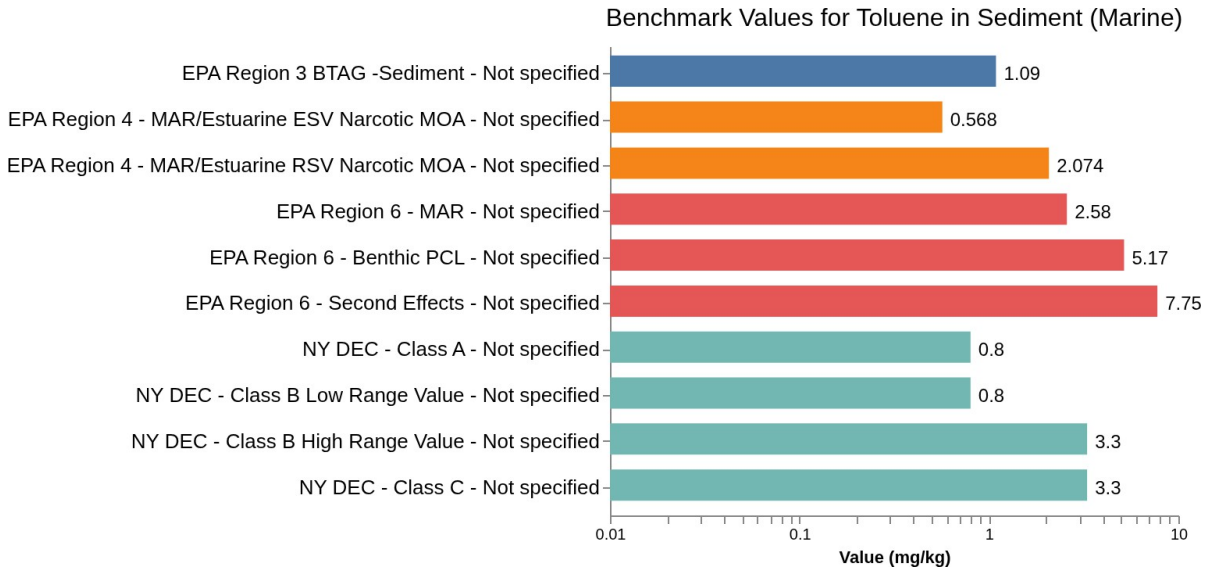


Table 203: Benchmark Values for Toxaphene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
8001−35−2	Canada	Sediment Marine ISQG	Not specified	0.00010	
8001−35−2	EPA Region 3	BTAG − Marine Sediment	Not specified	0.53600	
8001−35−2	EPA Region 4	Marine/Estuarine ESV	Aquatic and wildlife	0.00015	7
8001−35−2	EPA Region 4	Marine/Estuarine RSV	Aquatic and wildlife	0.05400	7, 28
8001−35−2	New York DEC	Saltwater Sediment Class A	Not specified	0.05400	23
8001−35−2	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.05400	
8001−35−2	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.07600	
8001−35−2	New York DEC	Saltwater Sediment Class C	Not specified	0.07600	22

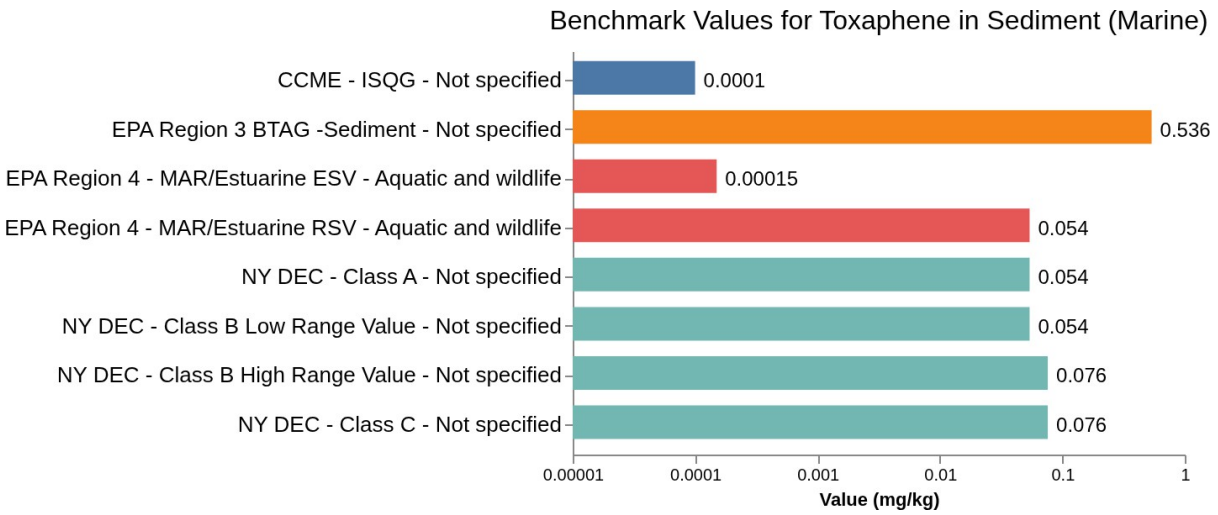


Table 204: Benchmark Values for Tribromophenol, 2,4,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
118−79−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.308

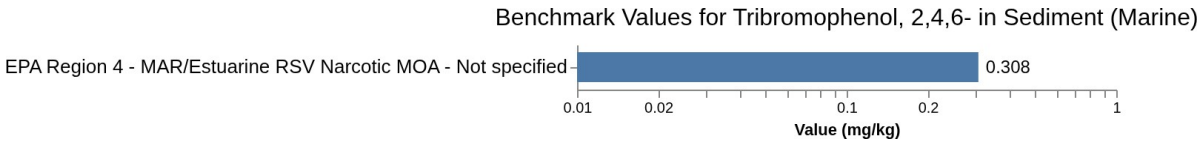


Table 205: Benchmark Values for Trichlorobenzene, 1,2,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
87−61−6	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.071
87−61−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.495

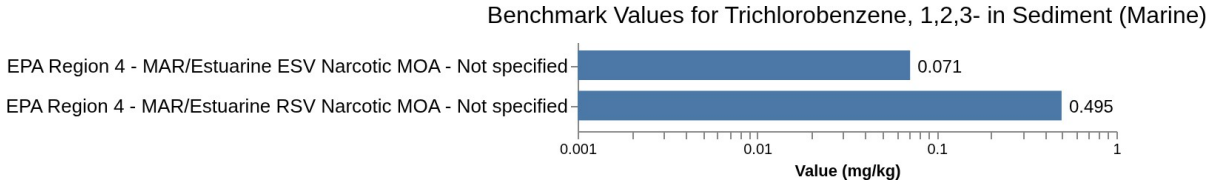


Table 206: Benchmark Values for Trichlorobenzene, 1,2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
120−82−1	EPA Region 3	BTAG − Marine Sediment	Not specified	0.4730	
120−82−1	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.0750	
120−82−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.4850	
120−82−1	EPA Region 6	Sediment Saltwater	Not specified	0.3900	
120−82−1	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.3600	
120−82−1	EPA Region 6	Sediment Saltwater Second Effects	Not specified	2.3200	
120−82−1	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	2.0000	
120−82−1	New York DEC	Saltwater Sediment Class A	Not specified	2.0000	23
120−82−1	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	7.4000	
120−82−1	New York DEC	Saltwater Sediment Class C	Not specified	7.4000	22
120−82−1	Washington	Marine Sediment Cleanup Objective	Not specified	0.0081	34
120−82−1	Washington	Marine Sediment Cleanup Screening Level	Not specified	0.0180	34

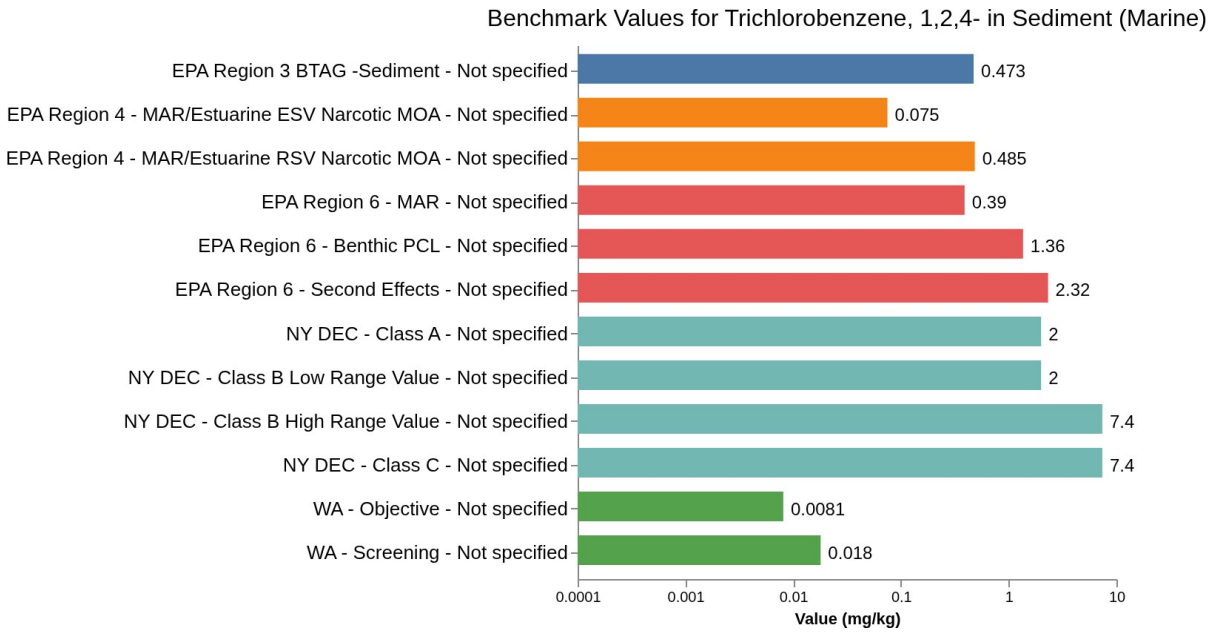


Table 207: Benchmark Values for Trichlorobenzene, 1,3,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
108−70−3	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.068
108−70−3	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.476

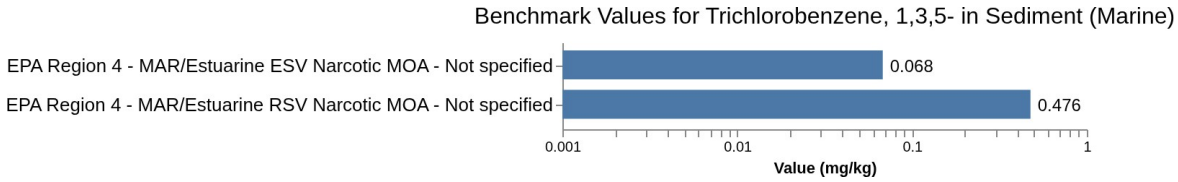


Table 208: Benchmark Values for Trichlorobenzene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
12002−48−1	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.068
12002−48−1	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.476

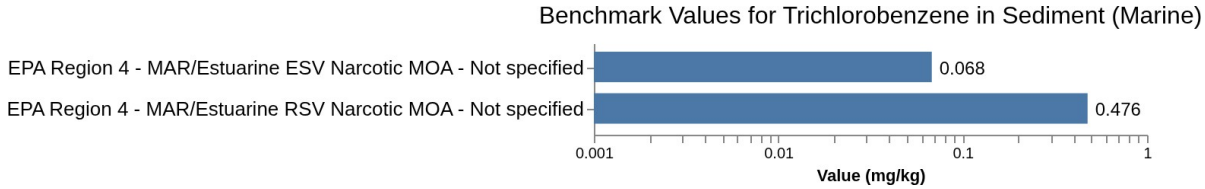


Table 209: Benchmark Values for Trichloroethane, 1,1,1− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
71−55−6	EPA Region 3	BTAG − Marine Sediment	Not specified	0.856	
71−55−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.367	
71−55−6	EPA Region 6	Sediment Saltwater	Not specified	11.950	
71−55−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	23.910	
71−55−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	35.860	
71−55−6	New York DEC	Saltwater Sediment Class A	Not specified	1.200	23
71−55−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.200	
71−55−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	4.600	
71−55−6	New York DEC	Saltwater Sediment Class C	Not specified	4.600	22

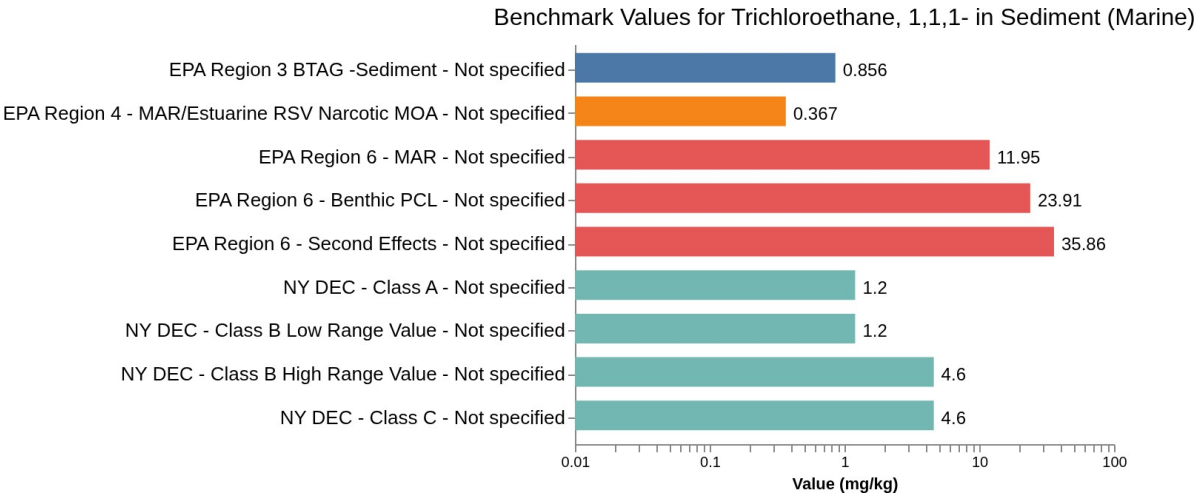


Table 210: Benchmark Values for Trichloroethane, 1,1,2− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
79−00−5	EPA Region 3	BTAG − Marine Sediment	Not specified	0.570	
79−00−5	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.545	
79−00−5	EPA Region 6	Sediment Saltwater	Not specified	0.300	
79−00−5	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	1.050	
79−00−5	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.800	
79−00−5	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	1.200	
79−00−5	New York DEC	Saltwater Sediment Class A	Not specified	1.200	23
79−00−5	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	4.600	
79−00−5	New York DEC	Saltwater Sediment Class C	Not specified	4.600	22

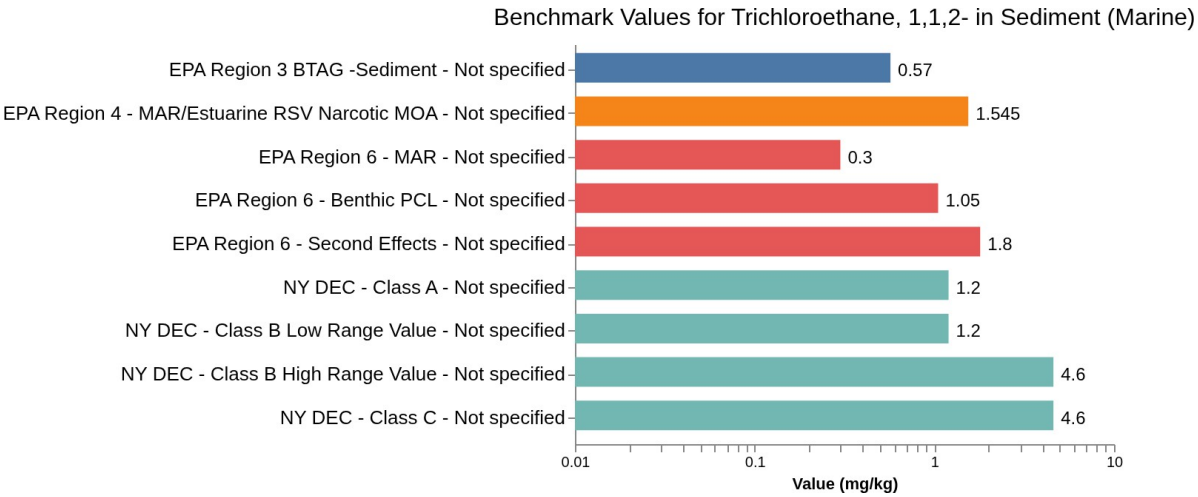


Table 211: Benchmark Values for Trichloroethylene in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
79−01−6	EPA Region 3	BTAG − Marine Sediment	Not specified	8.950	
79−01−6	EPA Region 4	Marine/Estuarine ESV Narcotic MOA	Not specified	0.073	
79−01−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.692	
79−01−6	EPA Region 6	Sediment Saltwater	Not specified	2.430	
79−01−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	4.870	
79−01−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	7.300	
79−01−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.920	
79−01−6	New York DEC	Saltwater Sediment Class A	Not specified	0.920	23
79−01−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	3.600	
79−01−6	New York DEC	Saltwater Sediment Class C	Not specified	3.600	22

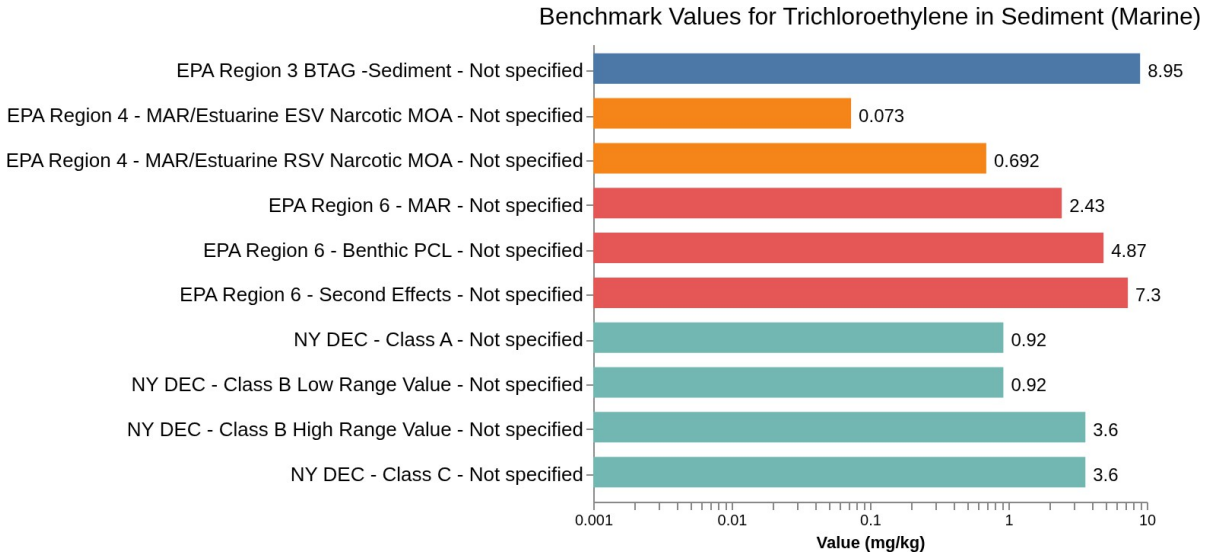


Table 212: Benchmark Values for Trichlorophenol, 2,4,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
95−95−4	EPA Region 3	BTAG − Marine Sediment	Not specified	0.819
95−95−4	EPA Region 4	Marine/Estuarine ESV	Not specified	0.217
95−95−4	EPA Region 4	Marine/Estuarine RSV	Not specified	1.964

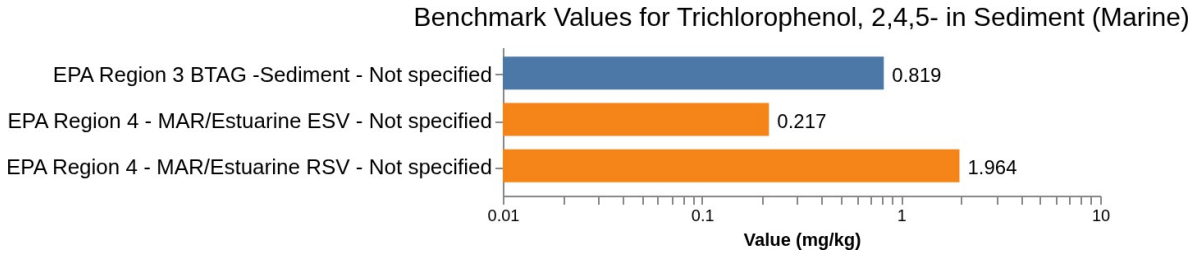


Table 213: Benchmark Values for Trichlorophenol, 2,4,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
88−06−2	EPA Region 3	BTAG − Marine Sediment	Not specified	2.650
88−06−2	EPA Region 4	Marine/Estuarine ESV	Not specified	0.117
88−06−2	EPA Region 4	Marine/Estuarine RSV	Not specified	1.964

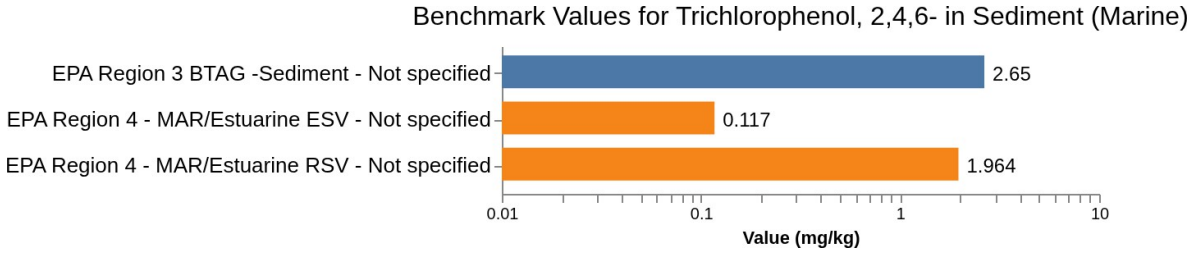


Table 214: Benchmark Values for Trichlorophenoxypropionic acid, −2,4,5 in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
93−72−1	EPA Region 4	Marine/Estuarine ESV	Not specified	0.103
93−72−1	EPA Region 4	Marine/Estuarine RSV	Not specified	0.184

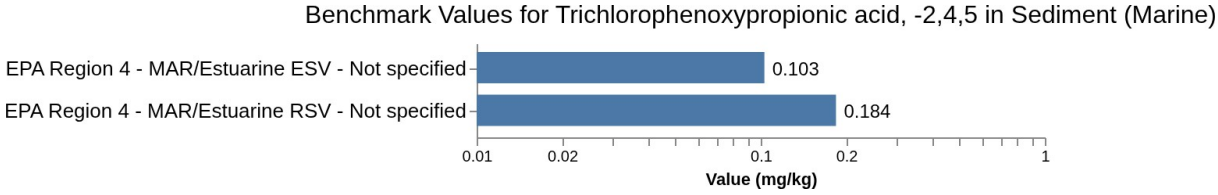


Table 215: Benchmark Values for Trifluralin in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1582−09−8	EPA Region 4	Marine/Estuarine RSV	Not specified	0.493	7

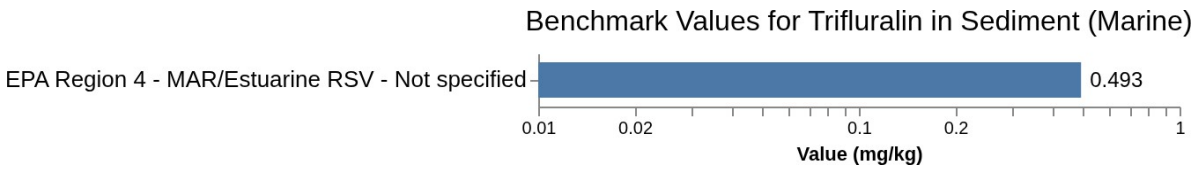


Table 216: Benchmark Values for Trimethylbenzene, 1,2,3− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
526−73−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.368

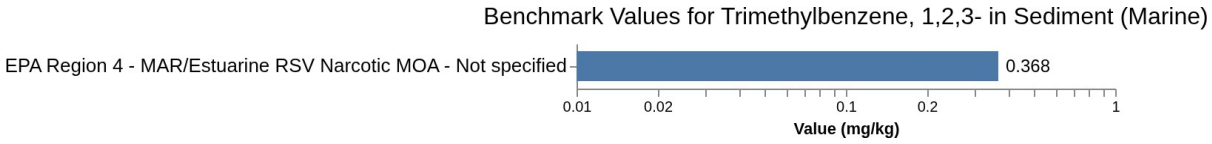


Table 217: Benchmark Values for Trimethylbenzene, 1,2,4− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
95−63−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.361	
95−63−6	EPA Region 6	Sediment Saltwater	Not specified	2.160	
95−63−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	7.560	
95−63−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	12.950	
95−63−6	New York DEC	Saltwater Sediment Class A	Not specified	2.000	23
95−63−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	2.000	
95−63−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	18.000	
95−63−6	New York DEC	Saltwater Sediment Class C	Not specified	18.000	22

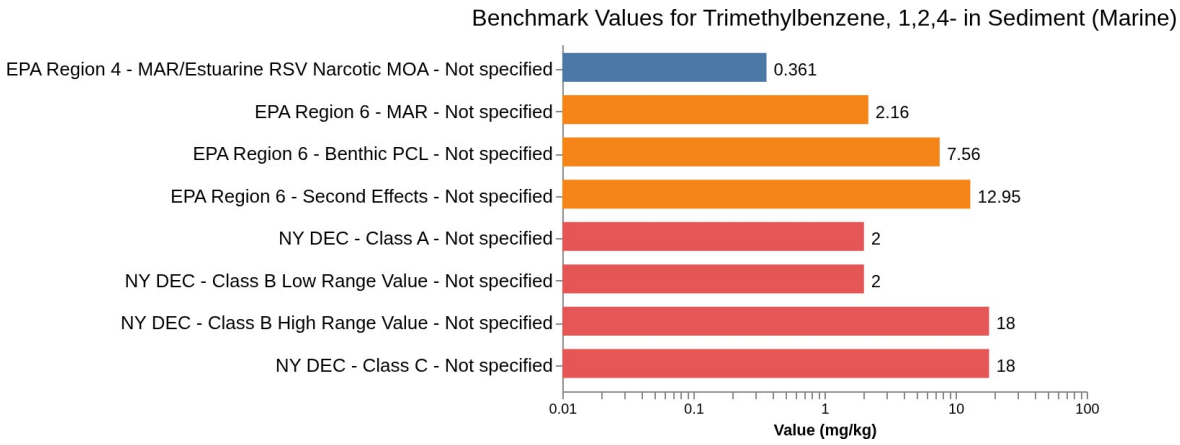


Table 218: Benchmark Values for Trimethylbenzene, 1,3,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
108−67−8	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.354

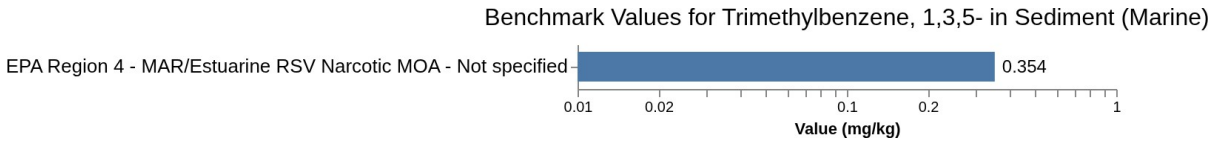


Table 219: Benchmark Values for Trinitrobenzene, 1,3,5− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
99−35−4	EPA Region 4	Marine/Estuarine ESV	Not specified	0.015
99−35−4	EPA Region 4	Marine/Estuarine RSV	Not specified	0.116
99−35−4	EPA Region 6	Sediment Saltwater	Not specified	0.250
99−35−4	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.300
99−35−4	EPA Region 6	Sediment Saltwater Second Effects	Not specified	0.440

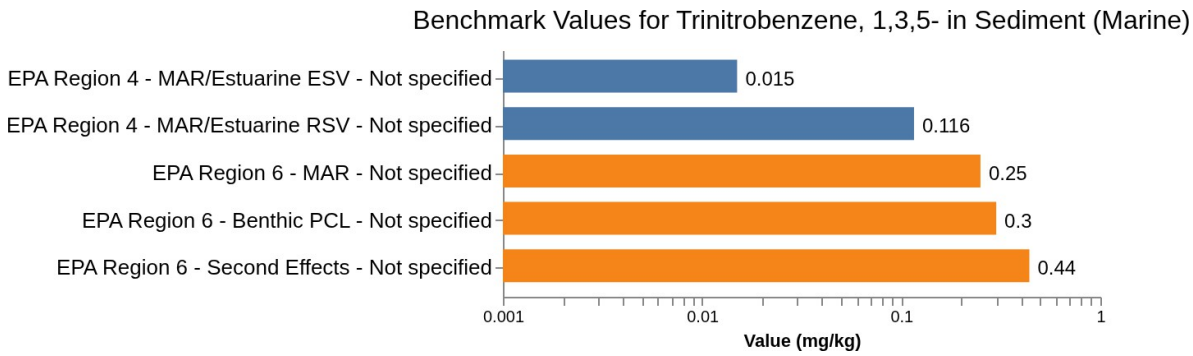


Table 220: Benchmark Values for Trinitrotoluene, 2,4,6− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
118−96−7	EPA Region 4	Marine/Estuarine RSV	Not specified	0.112
118−96−7	EPA Region 6	Sediment Saltwater	Not specified	0.180
118−96−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	0.600
118−96−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	1.080

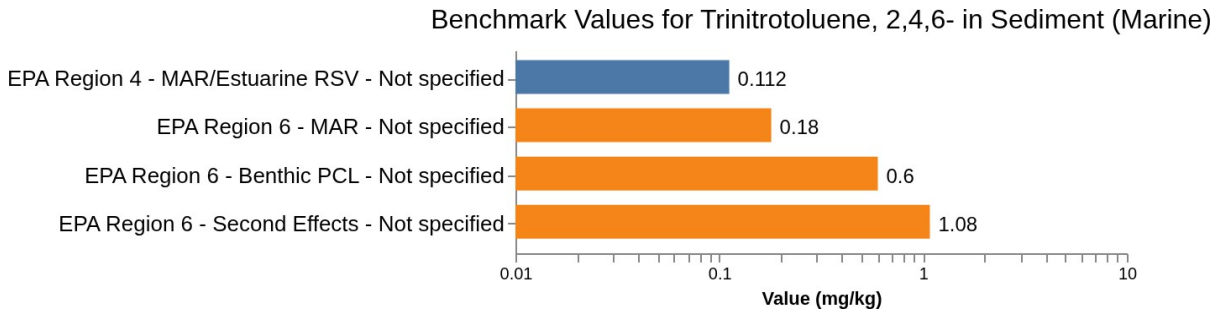


Table 221: Benchmark Values for Triphenyl phosphate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
115−86−6	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	0.00055

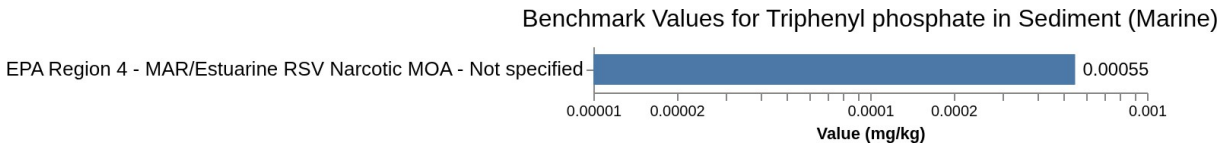


Table 222: Benchmark Values for Vinyl Acetate in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
108−05−4	EPA Region 4	Marine/Estuarine ESV	Not specified	1.03
108−05−4	EPA Region 4	Marine/Estuarine RSV	Not specified	2.23

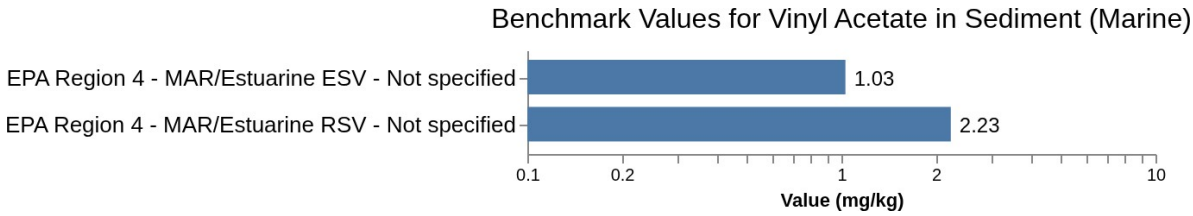


Table 223: Benchmark Values for Vinyl Chloride in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)
75−01−4	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.178

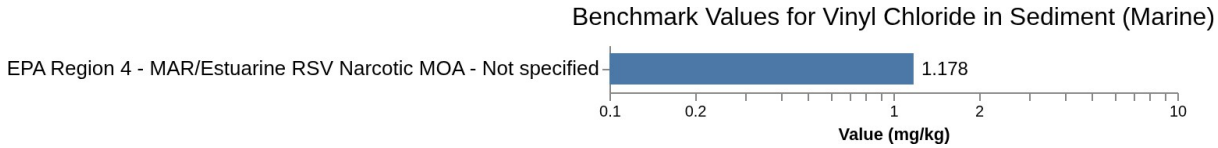


Table 224: Benchmark Values for Xylene, m− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
108−38−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.21	
108−38−3	New York DEC	Saltwater Sediment Class A	Not specified	0.21	23
108−38−3	New York DEC	Saltwater Sediment Class C	Not specified	1.50	22
108−38−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	1.50	

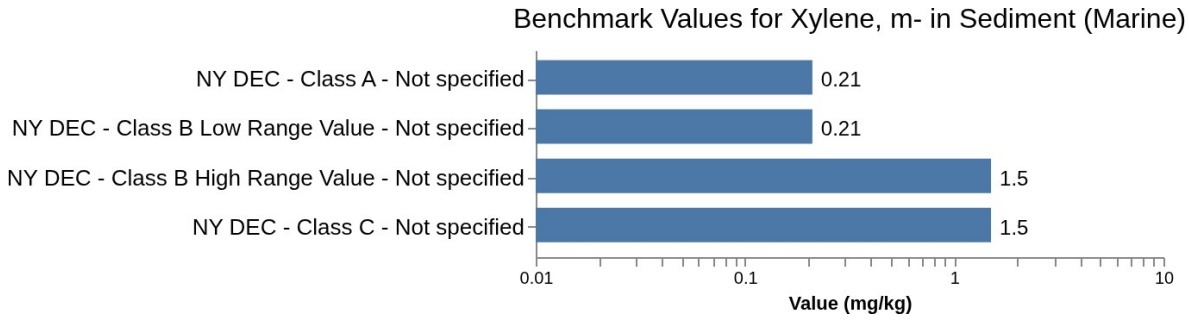


Table 225: Benchmark Values for Xylene, o− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
95−47−6	New York DEC	Saltwater Sediment Class A	Not specified	0.063	23
95−47−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.063	
95−47−6	New York DEC	Saltwater Sediment Class C	Not specified	0.440	22
95−47−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.440	

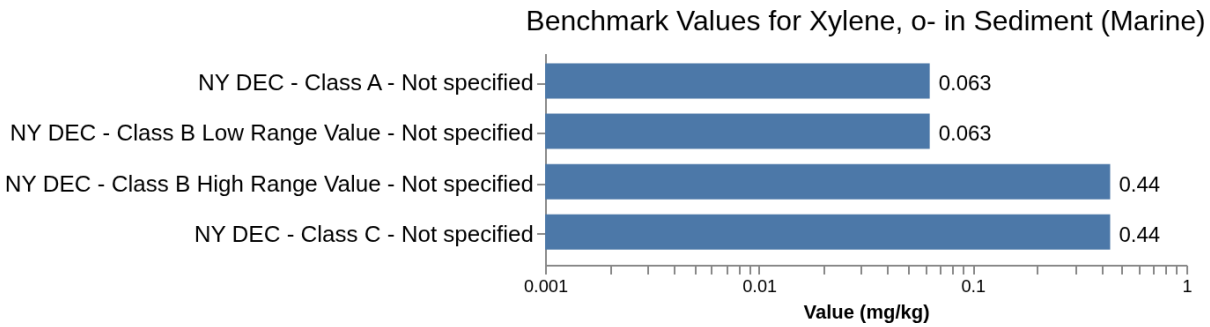


Table 226: Benchmark Values for Xylene, p− in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
106−42−3	New York DEC	Saltwater Sediment Class A	Not specified	0.057	23
106−42−3	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.057	
106−42−3	New York DEC	Saltwater Sediment Class C	Not specified	0.400	22
106−42−3	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.400	

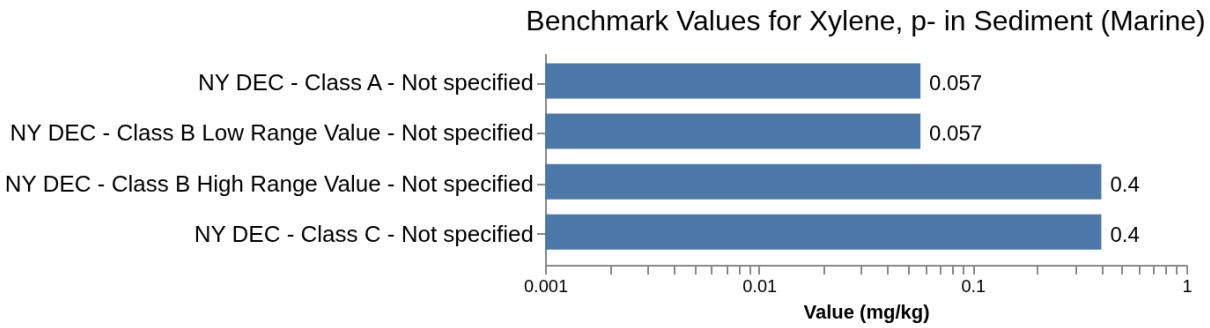


Table 227: Benchmark Values for Xylenes in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
1330−20−7	EPA Region 4	Marine/Estuarine RSV Narcotic MOA	Not specified	1.074	
1330−20−7	EPA Region 6	Sediment Saltwater	Not specified	2.540	
1330−20−7	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	5.080	
1330−20−7	EPA Region 6	Sediment Saltwater Second Effects	Not specified	7.620	
1330−20−7	New York DEC	Saltwater Sediment Class A	Not specified	0.091	23
1330−20−7	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	0.091	
1330−20−7	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	0.640	
1330−20−7	New York DEC	Saltwater Sediment Class C	Not specified	0.640	22

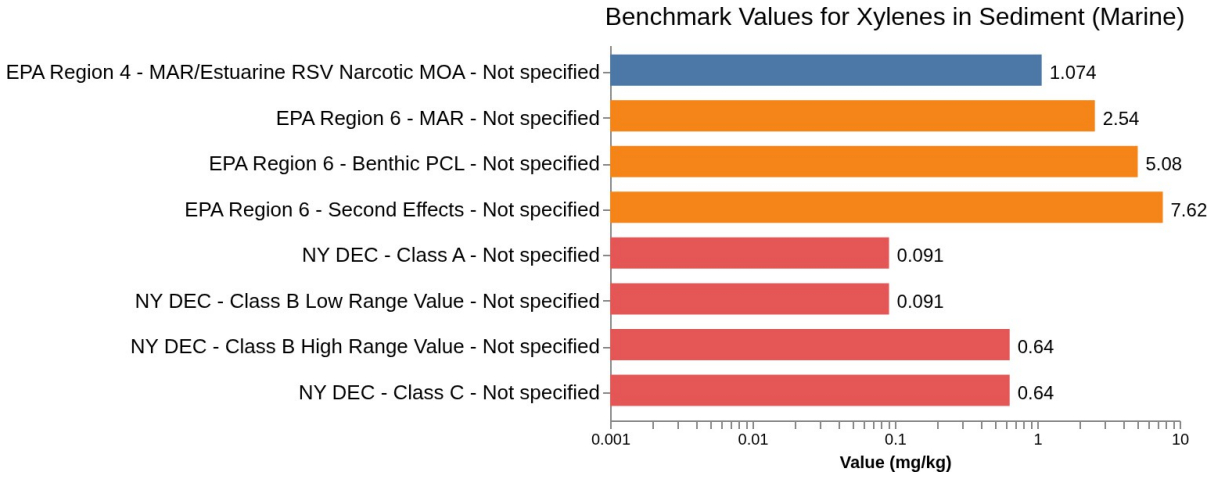
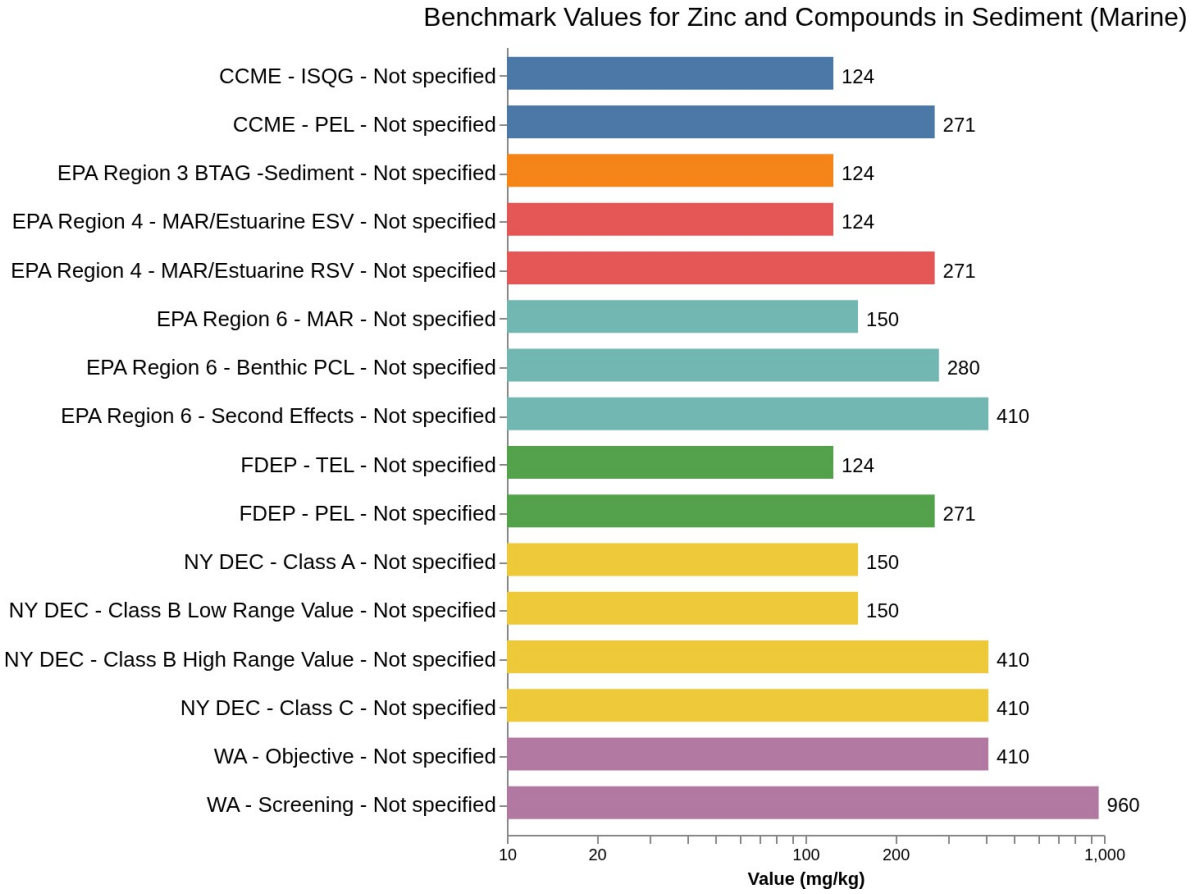


Table 228: Benchmark Values for Zinc and Compounds in Sediment (Marine)

CAS	Source	Benchmark	Organism	Value (mg/kg)	Footnotes
7440−66−6	Canada	Sediment Marine ISQG	Not specified	124.0	
7440−66−6	Canada	Sediment Marine PEL	Not specified	271.0	
7440−66−6	EPA Region 3	BTAG − Marine Sediment	Not specified	124.0	
7440−66−6	EPA Region 4	Marine/Estuarine ESV	Not specified	124.0	
7440−66−6	EPA Region 4	Marine/Estuarine RSV	Not specified	271.0	
7440−66−6	EPA Region 6	Sediment Saltwater	Not specified	150.0	
7440−66−6	EPA Region 6	Sediment Saltwater Benthic PCL	Not specified	280.0	
7440−66−6	EPA Region 6	Sediment Saltwater Second Effects	Not specified	410.0	
7440−66−6	Florida	Marine TEL	Not specified	124.0	
7440−66−6	Florida	Marine PEL	Not specified	271.0	
7440−66−6	New York DEC	Saltwater Sediment Class B Low Range Value	Not specified	150.0	
7440−66−6	New York DEC	Saltwater Sediment Class A	Not specified	150.0	23
7440−66−6	New York DEC	Saltwater Sediment Class B High Range Value	Not specified	410.0	
7440−66−6	New York DEC	Saltwater Sediment Class C	Not specified	410.0	22
7440−66−6	Washington	Marine Sediment Cleanup Objective	Not specified	410.0	
7440−66−6	Washington	Marine Sediment Cleanup Screening Level	Not specified	960.0	



3. CHEMICAL FOOTNOTES

1. Screening value is for filtered (dissolved) metals. A conversion factor (CF) was used to convert the screening value for total metals in surface water to a screening value for dissolved metals in surface water. CMC (dissolved) = CMC (total) × CF.
2. The freshwater screening value is hardness dependent. The screening value shown is for dissolved metals assuming a hardness of 50 mg/L as CaCO3. See Table 1C for screening values for varying degrees of water hardness.
3. Freshwater criteria for pentachlorophenol are pH Dependent. Values displayed are for a pH of 7.8.
4. Criteria for ammonia are pH, temperature, and lifestage dependent.
5. Selenium concentrations in water do not reflect dietary sources to aquatic life and screening against these numbers may not be adequately protective.
6. pH of 6.5−9.0
7. Bioaccumulative chemical
8. Sum for the Toxic Unit Approach. (See Table 2c at Region 4 Ecological Risk Assessment Supplemental Guidance)
9. Total value for Low Molecular Weight PAHs.
10. Total value for High Molecular Weight PAHs.
11. Subject to a narrative assessment. See Region 4 Ecological Risk Assessment Supplemental Guidance.
12. For hardness−dependent metals, freshwater chronic criteria are based on soft water with a total hardness of 50 mg/L as CaCO3. Soft water is common within Region 5; this water ESL may be recalculated when site specific water hardness is less than 50 mg/L.
13. Freshwater criteria for pentachlorophenol are pH Dependent. Values displayed are for a pH of 6.5.
14. The freshwater BTAG for Hydrazine depends on the hardness level. For hardness < 50, the BTAG is 5 ug/L. For hardness => 50, the BTAG is 10 ug/L.
15. Potential ecological risks associated with aluminum in soils are based on the measured soil pH. Where aluminum is a COC, it should only be retained for those soils with a pH less than 5.5. U.S. EPA. 2003. Ecological soil screening level for aluminum. Interim final. OSWER directive 9285.7−60. Washington.
16. Iron is not expected to be toxic to plants in well−aerated soils between pH 5 and 8. Importance is based less on its direct chemical toxicity than on its effect as a mediator in the geochemistry of other toxic metals and the physical hazard of depositing flocculent. EPA. 2003. Ecological soil screening levels for iron. Interim final. OSWER directive 9285.7−69. Washington.
17. When benchmarks represent the sum of individual compounds, isomers, or groups of congeners, and the chemical analysis indicates an undetected value, the proxy value specified at 30 TAC 350.51(n) shall be used for calculating the sum of the respective compounds, isomers, or congeners. This assumes that the particular COC has not been eliminated in accordance with the criteria at 350.71(k).
18. The low molecular weight PAH benchmark is to be compared to the sum of the concentrations of the following compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, and 2−methyl naphthalene. The PAH benchmark is not the sum of the corresponding benchmarks listed for the individual compounds.
19. The high molecular weight PAH benchmark is to be compared to the sum of the concentrations of the following compounds: fluoranthene, pyrene, benz(a)anthracene, chrysene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluroanthene, indeno(1,2,3−cd)pyrene, benzo(g,h,i)perylene, and dibenzo(a,h)anthracene. The PAH benchmark is not the sum of the corresponding benchmarks listed for the individual compounds.
20. Total PAH refers to the sum of the concentrations of each of low and high molecular weight PAHs listed above and any other PAH compounds that are not eliminated in accordance with 30 TAC 350.71(k). The benchmarks for total PAHs are the most relevant in evaluating risk in an ERA, as PAHs almost always occur as mixtures. Values for individual, low molecular weight, and high molecular weight PAHs are included as guidelines to aid in the determination of disproportionate concentrations within the mixture that may be masked by the total.
21. Indicates that the benchmarks are for the dissolved portion in water.
22. Value was reported as greater than the listed number.

23. Value was reported as less than the listed number.
24. These values are estimates. Methods of estimation are described in Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision.
25. A range of 0.8 to 4.0 ug/L was reported.
26. The chronic NAWQC for mercury (0.012 μg/L) is based on the final residue value. FCVs are used as benchmarks to protect aquatic life.
27. The chronic NAWQC for DDT (0.001 μg/L), total PCBs (0.014 μg/L), and heptachlor (0.0038 μg/l) are based on the final residue values; for benchmarks to protect aquatic life, we use SCVs.
28. Units are in mg/Kg dry weight.
29. These values are estimates. Methods of estimation are described in the reference.
30. Study LC50s were used rather than species mean LC50s, so water hardness would correspond to EC20 values.
31. Benchmarks are based on tests that are not standard but are judged to be of high quality.
32. The value's sediment quality assessment guidelines (SQAGs) are within a factor of three of the probable effects level (PEL).
33. These values have a presumed maximum TOC of 10% (0.1) applied to the values from the source for use in comparing to bulk sediment data. If the TOC in measured data is less than 10%, adjust values accordingly.
34. These values have a presumed TOC of 1% (0.01) applied to the values from the source for use in comparing to bulk sediment data.
35. See Methylmercury.
36. Consult the 2010 Polycyclic Aromatic Hydrocarbons factsheet or the 2010 PAH Scientific Supporting Document for guidance.
37. Surface Coarse 0.082 mg/kg. Surface Fine 0.018 mg/kg. Subsoil Coarse 0.082 mg/kg. Subsoil Fine 0.018 mg/kg.
38. Coarse Soil Guideline 4.6 mg/kg. Fine Soil Guideline 5.6 mg/kg. Coarse Soil Human health soil quality guideline 4.6 mg/kg. Fine Soil Human health soil quality guideline 4.6 mg/kg, Coarse Soil Environmental soil quality guideline 7.7 mg/kg. Fine Soil Environmental soil quality guideline 190 mg/kg.
39. SQGF Coarse 0.49 mg/kg. SQGF Fine 6.5 mg/kg.
40. Surface Coarse 0.37 mg/kg. Surface Fine 0.08 mg/kg. Subsoil Coarse 0.37 mg/kg. Subsoil Fine 0.08 mg/kg.
41. Surface Coarse 11 mg/kg. Surface Fine 2.4 mg/kg. Subsoil Coarse 11 mg/kg. Subsoil Fine 2.4 mg/kg.
42. 10−5 Incremental Risk − Surface Coarse 0.030 mg/kg. 10−5 Incremental Risk − Surface Fine 0.0068 mg/kg. 10−5 Incremental Risk − Subsoil Coarse 0.030 mg/kg. 10−5 Incremental Risk − Subsoil Fine 0.0068 mg/kg. 10−6 Incremental Risk − Surface Coarse 0.030 mg/kg. 10−6 Incremental Risk − Surface Fine 0.0068 mg/kg. 10−6 Incremental Risk − Subsoil Coarse 0.030 mg/kg. 10−6 Incremental Risk − Subsoil Fine 0.0068 mg/kg.
43. SQGF Coarse 6.5 mg/kg. SQGF Fine 21 mg/kg.
44. 10−5 Incremental Risk − Surface Coarse 0.030 mg/kg. 10−5 Incremental Risk − Surface Fine 0.0068 mg/kg. 10−5 Incremental Risk − Subsoil Coarse 0.030 mg/kg. 10−5 Incremental Risk − Subsoil Fine 0.0068 mg/kg. 10−6 Incremental Risk − Surface Coarse 0.0095 mg/kg. 10−6 Incremental Risk − Surface Fine 0.0068 mg/kg. 10−6 Incremental Risk − Subsoil Coarse 0.011 mg/kg. 10−6 Incremental Risk − Subsoil Fine 0.0068 mg/kg.
45. This value was derived using TEFs. See the fact sheet for supporting documentation.
46. 500 μg/L for blackberries; 500−1000 μg/L for peaches, cherries, plums, grapes, cowpeas, onions, garlic, sweet potatoes, wheat barley, sunflowers, mung beans, sesame, lupins, strawberries, Jerusalem arti- chokes, kidney beans, and lima beans; 1000−2000 μg/L for red peppers, peas, carrots, radishes, potatoes, and cucumbers; 2000−4000 μg/L for lettuce, cabbage, celery, turnips, Kentucky bluegrass, oats, corn, artichokes, tobacco, mustard, clover, squash, and muskmelons; 4000−6000 μg/L for sorghum, tomatoes, alfalfa, purple vetch, parsley, red beets, and sugar beets; 6000 μg/L for asparagus.
47. Foliar: 100−178 mg/L for almond apricots and plums; 178−355 mg/L for grapes, peppers, potatoes and tomatoes; 355−710 mg/L for alfalfa, barley, corn, and cucumbers; >710 mg/L for cauliflower, cotton, safflower, sesame, sorghum, sugar beets, and sunflowers. Rootstocks: 180−600 mg/L for stone fruit (peaches, plums, etc.); 710−900 mg/L for grapes. Cultivars: 110−180 mg/L for strawberries, 230−460 mg/L for grapes, 250 mg/L for boysenberries, blackberries, and raspberries.

48. 200 μg/L for cereals, 1000 μg/L for tolerant crops.
49. The concentration should not exceed 10 μg/L for continuous use on all soils or 50 μg/L for short−term use on acidic soils.
50. 20 μg/L for continuous use on all soils, 50 μg/L for intermittent use on all soils.
51. 500 mg/L for strawberries, raspberries, beans, and carrots. 500−800 mg/L for boysenberries, currants, blackberries, gooseberries, plums, grapes, apricots, peaches, pears, cherries, apples, onions, parsnips, radishes, peas, pumpkins, lettuce, peppers, muskmelons, sweet potatoes, sweet corn, potatoes, celery, cabbage, kohlrabi, cauliflower, cowpeas, broad beans, flax, sunflowers, and corn. 800−1500 mg/L for spinach, cantaloupe, cucumbers, tomatoes, squash, brussels, sprouts, broccoli, turnips, smooth brome, alfalfa, big trefoil, beardless wildrye, vetch, timothy, and crested wheat grass. 1500−2500 mg/L for beets, zucchini, rape, sorghum, oat hay, wheat hay, mountain brome, tall fescue, sweet clover, reed canary grass, birdsfoot trefoil, perennial ryegrass. 3500 mg/L for asparagus, soybeans, safflower, oats, rye, wheat, sugar beets, barley, barley hay, and tall wheat grass.
52. 1000 μg/L when soil pH < 6.5. 5000 μg/L when soil pH > 6.5.
53. 500 μg/L for sheep, 1000 μg/L for cattle, 5000 μg/L for swine and poultry.
54. The maximum concentration in livestock drinking water should not exceed 2000 μg/L, or 1000 μg/L in cases where the feed of animals contains fluoride.
55. The short−term benchmark concentration of 1.0 μg·L−1 is for waters of 50 mg CaCO3·L−1 hardness. The short−term benchmark for cadmium is related to water hardness (as CaCO3): When the water hardness is 0 to < 5.3 mg/L, the short−term benchmark is 0.11 μg/L. At hardness ≥ 5.3 to ≤ 360 mg/L, the short−term benchmark is calculated using this equation: Short−term benchmark (μg/L) = 10{1.016(log[hardness]) – 1.71}. At hardness > 360 mg/L, the short−term benchmark is 7.7 μg/L.
56. Benchmark = exp(0.878[ln(hardness)] + 4.76), where the benchmark is expressed in dissolved manganese concentration (μg/L), and hardness is measured as CaCO3 equivalents in mg/L.
57. 5 μg/L if pH < 6.5. 100 μg/L if pH ≥6.5.
58. The CWQG for cadmium (i.e., long−term guideline) of 0.09 μg·L−1 is for waters of 50 mg CaCO3·L−1 hardness. The CWQG for cadmium is related to water hardness (as CaCO3): When the water hardness is > 0 to < 17 mg/L, the CWQG is 0.04 μg/L. At hardness ≥ 17 to ≤ 280 mg/L, the CWQG is calculated using this equation: CWQG (μg/L) = 10{0.83(log[hardness]) – 2.46 }. At hardness > 280 mg/L, the CWQG is 0.37 μg/L.
59. The CWQG for copper is related to water hardness (as CaCO3): When the water hardness is 0 to < 82 mg/L, the CWQG is 2 μg/L. At hardness ≥82 to ≤180 mg/L the CWQG is calculated using this equation: CWQG (μg/L) = 0.2 * e{0.8545[ln(hardness)]−1.465}. At hardness >180 mg/L, the CWQG is 4 μg/L. If the hardness is unknown, the CWQG is 2 μg/L.
60. The CWQG for lead is related to water hardness (as CaCO3): When the hardness is 0 to ≤ 60 mg/L, the CWQG is 1 μg/L. At hardness >60 to ≤ 180 mg/L the CWQG is calculated using this equation: CWQG (μg/L)= e{1.273[ln(hardness)]−4.705}. At hardness >180 mg/L, the CWQG is 7 μg/L. If the hardness is unknown, the CWQG is 1 μg/L.
61. The CWQG for manganese (i.e., long−term guideline) is found using the CWQG calculator in Appendix B of the Scientific Criteria Document for the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life: Manganese.
62. The CWQG for nickel is related to water hardness (as CaCO3): When the water hardness is 0 to ≤ 60 mg/L, the CWQG is 25 μg/L. At hardness > 60 to ≤ 180 mg/L the CWQG is calculated using this equation: CWQG (μg/L) = e{0.76[ln(hardness)]+1.06}. At hardness >180 mg/L, the CWQG is 150 μg/L. If the hardness is unknown, the CWQG is 25 μg/L.
63. Canadian Guidance Framework for Phosphorus is for developing phosphorus guidelines (does not provide guidance on other freshwater nutrients). It provides Trigger Ranges for Total Phosphorus (μg/L) (see Guidance Framework for Phosphorus factsheet): ultra−oligotrophic <4, oligotrophic 4−10, mesotrophic 10−20, meso−eutrophic 20−35, eutrophic 35−100, hyper−eutrophic >100.
64. The long−term CWQG is for dissolved zinc and is calculated using the following equation: CWQG = exp(0.947[ln(hardness mg·L−1)] − 0.815[pH] + 0.398[ln(DOC mg·L−1)] + 4.625). The short−term benchmark is for dissolved zinc and is calculated using the following equation: Benchmark = exp(0.833[ln(hardness mg·L−1)] + 0.240[ln(DOC mg·L−1)] + 0.526).
65. Supporting documents are available from the Canadian Council of Ministers of the Environment.
66. The listed values are dry weight.

67. This is a reactive species.
68. Guideline is crop−specific: Cereals and hay value is 46 ug/L and Legumes value is 93 ug/L, per the British Columbia data catalog.
69. Active ingredient WQG is 490 ug/L per the British Columbia data catalog.
70. Guideline is crop−specific. The value listed of 0.071 ug/L applies to crops other than cereals, hay, and pastures (e.g., tomato). The value of 3.3 ug/L applies to cereals, hay, and pastures per the British Columbia data catalog.
71. The contents of the measured substances are lower than the Intervention Value for soil, not being the bed or bank of a surface water body, and for organic substances: msPAF < 20%
72. The contents of the measured substances are lower than the Intervention Value for soil, not being the bed or bank of a surface water body, and for metals: msPAF < 50%, with a maximum content for cadmium.
73. This values is a so−called 'Indicative Level'. No reliable Intervention Value could be derived. Indicative Levels are based on the same principles as Intervention Values but have a lower status.
74. This is organic mercury.
75. The three types of dihydroxybenzenes are catechol, resorcinol, and hydroquinone.
76. This chemical was given a value 50 mg/kg for falling under the monochloroanilines category.
77. This chemical was given a value of 50 mg/kg for falling under the dichloroanilines category.
78. This chemical was given a value of 10 mg/kg for falling under the trichloroanilines category.
79. This chemical was given a value of 30 mg/kg for falling under the tetrachloroanilines category.
80. This chemical was given a value of 10 mg/kg for falling under the pentachloroanilines category.
81. The listed value is valid when Aluminum's pH is greater than 6.5. If the pH is less than 6.5, then it has an unknown LOSP value of 0.0008 mg/kg.
82. The Marine Water value was blank from the source, but the Freshwater value is presented as a reference. For other chemical benchmarks from this source, the Freshwater value is often recommended as a cautionary substitute for Marine Waters.
83. The toxicant reliability of these values is unknown.
84. The toxicant reliability of these values is very low.
85. The toxicant reliability of these values is very high.
86. The toxicant reliability of these values is high.
87. The toxicant reliability of these values is low.
88. The toxicant reliability of these values is moderate.
89. Recommended for application for slightly to moderately disturbed ecosystems. If the LOSP 99 is recommended, it is due to the bioaccumulating nature of the toxicant. This application protects key species from acute and chronic toxicity.
90. Recommended for application for slightly to moderately disturbed ecosystems (to protect key species from chronic toxicity). However, this DGV may still not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species).
91. DGV may be below routine limits of reporting for most commercial laboratories, although some laboratories may be able to achieve lower limits of reporting.
92. DGV may not protect key test species from acute (and chronic) toxicity.
93. Recommended for application for slightly to moderately disturbed ecosystems. Although bioaccumulation may be an issue, rapid depuration of this chemical represents a mitigating factor, and the 95% species protection DGV should provide sufficient protection for slightly−moderately disturbed systems. If local data suggest that bioaccumulation is an issue at the specific site, the 99% protection level may be more appropriate.
94. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species).
95. This value was derived from an acute toxicity dataset comprising 23 species from three taxonomic groups (but which did not include plants). As diuron is a herbicide, the value should be treated with additional caution.
96. This DGV is derived from mesocosm NOEC data. This is the only DGV available for this toxicant.

97. Bioaccumulation and secondary poisoning effects should be considered for this toxicant. To account for the bioaccumulating nature of this toxicant, it is recommended to apply the species protection level DGV that is one level above that which would normally be applied (e.g., if 95% level of species protection would normally be applied, then the 99% DGV should be used).
98. Bioaccumulation and secondary poisoning effects should be considered for this toxicant. Tainting or flavour impairment of fish flesh might occur at concentrations below the DGV. To account for the bioaccumulating nature of this toxicant, it is recommended to apply the species protection level DGV one level above that which would normally be applied (e.g., if 95% level of species protection would normally be applied, then the 99% DGV should be used). Tainting or flavour impairment of fish flesh might occur at concentrations below the DGV.
99. Bioaccumulation and secondary poisoning effects should be considered for this toxicant. Tainting or flavour impairment of fish flesh might occur at concentrations below the DGV.
100. Bioaccumulation and secondary poisoning effects should be considered for this toxicant. Tainting or flavour impairment of fish flesh might occur at concentrations below the DGV. These DGVs and the information in the corresponding DGVs technical brief for this toxicant should be used in accordance with the detailed guidance provided on the Australian and New Zealand Guidelines for Fresh and Marine Water Quality website.
101. Bioaccumulation and secondary poisoning effects should be considered for this toxicant.
102. Ammonia as total ammonia nitrogen, measured as [NH3−N] at pH 8.
103. The DGVs apply to dissolved boron and are based on data from toxicity tests conducted for a pH range of 6.8–10 and hardness range of 9.3–250 mg CaCO3/L. They supersede the ANZECC/ARMCANZ (2000) trigger values for boron in freshwater.
104. Adjust DGVs for site−specific hardness using the hardness−dependent algorithm in Warne et al. (2018).
105. Chlorine as total chlorine, measured as [Cl].
106. The copper DGVs should not be adjusted for water hardness (see Warne et al. 2018).
107. Cyanide as un−ionized HCN, measured as [CN].
108. The DGVs are expressed in terms of the active ingredient (glyphosate) and do not relate to any of the breakdown products of glyphosate. They supersede the ANZECC/ARMCANZ (2000) trigger values for glyphosate in freshwater. Commercial formulations containing glyphosate can be more toxic than glyphosate alone. The Guidelines provide guidance on how to account for formulations (Also see Warne et al. 2018).
109. Sulfide as un−ionized H2S, measured as [S].
110. The DGVs relate to metolachlor only and not any of its breakdown products.
111. The DGVs are expressed in terms of the active ingredient (metsulfuron−methyl) and do not relate to any of the breakdown products of metsulfuron−methyl. They supersede the ANZECC/ARMCANZ (2000) trigger values for metsulfuron in freshwater. These DGVs and the information in the corresponding DGVs technical brief for this toxicant should be used in accordance with the detailed guidance provided on the Australian and New Zealand Guidelines for Fresh and Marine Water Quality website, including guidance on what to do if DGVs are below analytical detection limits.
112. The value listed as the saltwater CMC represents a benchmark value, not a criterion. Data limitations precluded the development of a CCC in saltwater.
113. The listed value of 0.752 mg/L is at a pH level of 6.5 with a temperature of 20˚C. For information on other temperatures and pH levels, refer to Table 3 here.
114. The listed value of 0.000038 mg/L is a lower−bound short−term maximum for varying water hardness and an upperbound maximum of 2.80 ug/L.
115. This value is a result of a pH level of 6.7 and 10˚C. For information on other temperatures and pH levels, refer to Table 3 here.
116. The listed value of 0.4 mg/L is a maximum, where the water hardness is 10 mg/L; otherwise, use the equation: LC50 fluoride = −51.73 + 92.57 log10 (Hardness) and multiply by 0.01.
117. Dissolved Pb WQG = exp(0.514 [ln(DOC)] + 0.214[ln(hardness)] + 0. 4354)
118. The listed value of 0.06 mg/L is for a chloride concentration of less than 2; 0.12 mg/L with a chloride concentration of 2−4; 0.18 mg/L with a chloride concentration of 4−6; 0.24 mg/L of a chloride concentration of

6−8; 0.3 mg/L with a chloride concentration of 8−10; and 0.6 mg/L with a chloride concentration greater than 10.

119. Instantaneous maximum calculated from: less than or equal to 0.01102 hardness + 0.54.
120. The listed value of 0.003 mg/L is for use under non−phototoxic conditions. For use under phototoxic conditions, the value 0.00005 mg/L should be used.
121. WQG=[e⁽[0.645·ln(*DOC*)]+[2.255·ln(*hardness*)]+[1.995·*pH*]+[−0.284 ·(ln(*hardness*)·*pH*)]−9.898⁾]/3 (e.g., for a water with the following chemistry (pH = 7.5, DOC = 0.5 mg/L, hardness = 50 mg/L) the AWQG is 55 μg Al/L (total Al).
122. The listed value of 1.22 mg/L is at a pH level of 6.5 with a temperature of 20°C. For information on other temperatures and pH levels, refer to Table 27C here.
123. The listed value of 0.004 mg/L is for use under non−phototoxic conditions. For use under phototoxic conditions, the value 0.0001 mg/L should be used.
124. The listed value of 0.0001 mg/L should be used under both non−phototoxic and phototoxic conditions.
125. The listed value of 0.0000176 mg/L is a lower−bound long−term average for varying water hardness and an upperbound average of 0.457 ug/L.
126. Average of five weekly measurements taken over a 30−day period. Calculated from: less than or equal to 0.0044 hardness + 0.605.
127. When MeHg = 0.5% of THg, the listed value of 0.00002 mg/L should be used. When MeHg = 1.0% of THg, the value of 0.01 ug/L should be used. When MeHg 8.0% of THg, the value of 0.00125 ug/L should be used.
128. The listed value of 0.02 mg/L is for a chloride concentration of less than 2; 0.04 mg/L for a chloride concentration of 2−4; 0.06 mg/L for a chloride concentration of 4−6; 0.08 mg/L for a chloride concentration of 6−8; 0.10 mg/L for a chloride concentration of 8−10; and 0.20 mg/L for a chloride concentration of more than 10.
129. Guideline is for lakes where salmonids are the predominant fish species. Total phosphorus in lakes is either the spring overturn concentration, if the residence time of the epilimnetic water exceeds 6 months, or the mean epilimnetic growing season concentration, if residence time of epilimnetic water is below 6 months.
130. The listed value of 0.00002 mg/L is for use under phototoxic conditions.
131. The listed value of 0.00005 mg/L is for use when hardness is less than or equal to 100 mg/L. If hardness is greater than 100 mg/L, then use the value of 1.5 ug/L.
132. Sulfate is dependent on water hardness (mg/L). The listed value of 128 is for a water hardness of very soft (0−30). 218 is for soft to moderately soft water hardness (31−75). 309 is for moderately soft/hard to hard water hardness (76−180). 429 is for very hard water hardness (181−250). For anything greater than 250, it needs to be determined based on site water.
133. The long−term chronic WQC = [exp(0.947[ln(hardness)] − 0.815[pH] + 0.398[ln(DOC)] + 4.625)] / 2. The short−term acute WQC = [exp(0.833[ln(hardness)] + 0.240[ln(DOC)] + 0.526)] / 2.
134. Sediment containing 1% organic carbon.
135. The listed value of 11 mg/kg applies to fish egg/ovary. A value of 4 mg/kg applies to fish muscle/muscle plug, fish, whole−body, and invertebrate tissue (dietary). This is Aquatic Life− Freshwater Long−term Chronic.
136. Duration < 2 hours within 24 hour period.
137. Human activities should not cause the chloride of marine and estuarine waters to fluctuate by more than 10% of the natural chloride expected at that time and depth.
138. Applies to all soil types.
139. The listed value of 0.2 mg/L is for all soil types except neutral and alkaline. 400 ug/L should be used for neutral and alkaline fine textured soils.
140. The listed value is only for forage crops.
141. The listed value of 2 mg/L is for moderately sensitive crops (red pepper, pea, carrot, radish, potato, cucumber). 4 mg/L is for moderately tolerant crops (lettuce, cabbage, celery, turnip, Kentucky bluegrass, oat, corn, artichoke, tobacco, mustard, clover, squash, muskmelon). 1 mg/L is for sensitive crops (peach, cherry, plum, grape, cowpea, onion, garlic, sweet potato, wheat, barley, sunflower, mung bean, sesame, lupin, strawberry, Jerusalem artichoke, kidney bean, lima bean). 6 mg/L is for tolerant crops (sorghum, tomato, alfalfa, purple vetch, parsley, red beet, sugar beet). 0.5 mg/L is for very sensitive crops (black- berry). 15 mg/L is for very tolerant crops (asparagus).

142. This value is for non−forage crops. A value of 0.01 mg/L is for forage crops grown in poorly drained soils, and a value of 0.02 mg/L is for forage crops grown in well drained soil.
143. The guideline for Zinc is dependent upon the pH of the soil, not the irrigation water. For Soil pH<6, the WQC is 1 mg/L. For soil pH greater than or equal to 6 and < 7, the WQC is 2. For soil pH greater then or equal to 7, the WQC is 5.
144. The listed value of 4 mg/L is for all livestock except long lived animals, such as dairy cows and breeding stock fed normal diets. A value of 2 mg/L is for all livestock fed high fluoride diets including mineral or bone meal and feed additives. A value of 1.5 mg/L is for dairy cows, breeding stock, and long−lived animals.
145. For livestock consuming forages not irrigated or if no molybdenum containing fertilizers are applied to grow the feed consumed by livestock, a value of 0.08 mg/L should be used.
146. When nitrate and nitrite are present, total nitrate plus nitrite−nitrogen should not exceed the nitrate WQG.
147. The listed value of 1 mg/L is for dairy cows, breeding stock, and long−lived animals and all animals fed high fluoride diets including mineral or bone meal and feed additives. 2 mg/L is for all livestock except for long lived animals, such as dairy cows and breeding stock fed normal diets.
148. Guideline applies to fish or shellfish consumed by wildlife.
149. The listed value of 6 mg/kg applies to bird eggs.
150. Resin acids are pH dependent. The listed value of 0.009 mg/L is valid between pH > 6.0 and <= 6.5. A value of 1 ug/L is valid at a pH of 5.0. A value of 3 ug/L is valid between a pH > 5.0 and <= 5.5. A value of 4 ug/L is valid between a pH > 5.5 and <=6.0. A value of 25 ug/L is valid between a pH > 6.5 and <= 7.0. A value of 45 ug/L is valid between a pH > 7.0 and <= 7.5. A value of 52 ug/L is valid between a pH > 7.5 and <= 8.0. A value of 60 ug/L is valid between a pH > 8.0 and <= 8.5. A value of 62 ug/L is valid between a pH > 8.5 and <= 9.0. Any pH less an 5.0 a site assessment may be necessary.
151. Dehydroabietic acid (DHA) is pH dependent. The listed value of 0.004 mg/L is valid between pH > 6.0 and <= 6.5. A value of 1 ug/L is valid at a pH of 5.0. A value of 2 ug/L is valid between a pH > 5.0 and <= 5.5. A value of 2 ug/L is valid between a pH > 5.5 and <=6.0. A value of 8 ug/L is valid between a pH > 6.5 and <= 7.0. A value of 12 ug/L is valid between a pH > 7.0 and <= 7.5. A value of 13 ug/L is valid between a pH > 7.5 and <= 8.0. A value of 14 ug/L is valid between a pH > 8.0 and <= 8.5. A value of 14 ug/L is valid between a pH > 8.5 and <= 9.0. Any pH less an 5.0 a site assessment may be necessary.
152. The benchmark can be greater than or equal to this value.
153. The value listed of 0.0011 mg/kg is the sum of compounds Aldrin and Dieldrin.
154. The value listed of 0.0052 mg/kg is the sum of compounds Heptachlor and Heptachlor epoxide.
155. The value listed of 0.021 mg/kg is the sum of Hexachlorocyclohexanes isomers.
156. The value listed of 0.25 mg/kg is the sum of Trichlorobenzenes isomers.
157. Hardness−dependent ambient water quality criterion (100 mg/L as CaCO3 used).
158. Value is for total of all chemical forms.
159. pH−dependent ambient water quality criterion (7.8 pH used).
160. These lowest effect levels are based on 10% of the screening level concentration instead of the default value of 5%.
161. These severe effect levels are based on 90% of the screening level concentration instead of the default value of the 95%.
162. Values are tentative guidelines.
163. Aluminum is pH dependent.
164. There is a duplicate row with higher values in the source.
165. Values are the same for Arsenic dissolved and Arsenic total recoverable.
166. Mercury dissolved value is listed. Total Recoverable value is 0.0034 mg/L.
167. The value listed is for Warm Water Habitat (WWH), Exceptional Warm Water Habitat (EWH), Modified Warm Water Habitat (MWH), Cold Water Habitat (CWH), and Limited Resource Water (LRW). For Seasonal Salmonid Habitat (SSH), no chlorine is to be discharged.
168. Mercury dissolved value is listed. Total Recoverable value is 0.0017 mg/L.
169. The value listed is for Warm Water Habitat (WWH), Exceptional Warm Water Habitat (EWH), Modified Warm Water Habitat (MWH), and Cold Water Habitat (CWH). For Seasonal Salmonid Habitat (SSH), no chlorine is to be discharged.

170. Mercury dissolved value is listed. Total Recoverable value is 0.00091 mg/L. Lake Erie Basin Total Recoverable value is 0.0000013 mg/L.
171. Selenium dissolved value is listed. Total Recoverable value is 0.005 mg/L.
172. The listed value is for Warm Water Habitat (WWH), Exceptional Warm Water Habitat (EWH), and Modified Warm Water Habitat (MWH).
173. The listed value is for Seasonal Salmonid Habitat (SSH) and Cold Water Habitat (CWH).
174. Ammonia's value is pH dependent. For Warm Water Habitat (WWH), Modified Warm Water Habitat (MWH), and Limited Resource Habitat (LRW), pH ranges between 6.5 − 7.7 with a temperature between 0C and 26C the value of 13 mg/L should be used. All other pH levels and temperatures should be referenced in Table 35−2. Link to the tables is here.
175. For Exceptional Warm Water Habitats (EWH) with a pH range of 6.5 − 7.4 and a temperature between 0C and 25C, the value of 13 mg/L should be used. All other pH levels and temperatures should be referenced in Table 35−3. Link to the tables is here.
176. For Cold Water Habitat (CWH) and Seasonal Salmonid Habitat (SSH) with a pH range of 6.5 − 7.4 and a temperature between 0C and 20C, the value of 13 mg/L should be used. All other pH levels and temperatures should be referenced in Table 35−4. Link to the tables is here.
177. Pentachlorophenol is pH dependent. The listed value of 0.011 mg/L is for a pH level of 7.5. For other pH levels, refer to Table 35−10. Link to the tables is here.
178. Cadmium is water hardness dependent. The listed value is for a water hardness of 100. For other hardness levels and forms, see Table 35−9. Link to the tables is here.
179. Chromium is water hardness dependent. The listed value is for a water hardness of 100. For other hardness levels and forms, see Table 35−9 here.
180. In addition, any whole sample of any representative aquatic organisms shall not exceed 0.64 mg/kg (wet weight).
181. Ammonia's value is pH dependent. For Warm Water Habitat (WWH) with pH ranges between 6.5 − 7.7 with a temperature between 10C and 14C, and during the months of March to November the value of 2.3 mg/L should be used. All other pH levels, temperatures, and months should be referenced in Table 35−5. Link to the tables is here.
182. Ammonia's value is pH dependent. For Exceptional Warm Water Habitats (EWM) with pH ranges between 6.5 − 7.7, a temperature between 10C and 13C, and during the months of March to November, the value of 2.2 mg/L should be used. All other pH levels, temperatures, and months should be referenced in Table 35−6. Link to the tables is here.
183. Ammonia's value is pH dependent. For Modified Warm Water Habitat (MWH) with pH ranges between 6.5-7.7, a temperature between 10C and 13C, and during the months of March to November, the value of 3.4 mg/L should be used. All other pH levels, temperatures, and months should be referenced in Table 35−7. Link to the tables is here.
184. Ammonia's value is pH dependent. For Cold Water Habitat (CWH) with pH ranges between 6.5 − 7.7 with a temperature between 8C and 13C, a value of 2.2 mg/L should be used. All other pH levels and temperatures should be referenced in Table 35−8. Link to the tables is here.
185. Copper is water hardness dependent. The listed value is for a water hardness of 100. For other hardness levels and forms, see Table 35−9 here.
186. Lead is water hardness dependent. The listed value is for a water hardness of 100. For other hardness levels and forms, see Table 35−9 here.
187. Nickel is water hardness dependent. The listed value is for a water hardness of 100. For other hardness levels and forms, see Table 35−9 here.
188. Zinc is water hardness dependent. The listed value is for a water hardness of 100. For other hardness levels and forms, see Table 35−9 here.
189. This criterion applies to the sum of DDT and metabolites.
190. The form of the chemical is dissolved.
191. The form of the chemical is total recoverable.
192. The form of the chemical is total.
193. The form of the chemical is total residual.
194. The form of the Cyanide is free.

195. Values enclosed by ”( )” were not calculated according to the regulations, due to limited data. These values should only be used for advisory purposes, such as establishing ”reasonable potential”.
196. Values enclosed by ”[ ]” are national criteria and should be used for advisory purposes only.
197. Values are estimates.
198. Values are pH based.
199. 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.
200. Dissolved criterion.
201. Criteria expressed as free cyanide (as CN)/L.
202. The value listed is calculated with an assumed hardness level of 100. To calculate additional hardness values, use the formulas provided in the document on page 34.
203. Westhollow Technical Center Levels were developed by Shell Oil for surface water and were approved for use by NJDEP with the following conditions: 1) the source area is removed, 2) these levels are on the fringe of the contamination area, and 3) active remediation is occurring. These levels are applicable to surface water and wetland areas.
204. The value listed is calculated with an assumed pH of 6.8 and temperature of 20C. For other values regarding various temperatures and pH levels, use the formulas provided in the document on page 33.
205. This value is for the total of Heptachlor/Heptachlor epoxide.
206. The benzene hexachloride (BHC) value applies to all stereoisomers of 1,2,3,4,5,6−hexachlorcyclohexane.
207. This value applies to all chlorinated dibenzofurans.
208. This value applies to all chlorinated dibenzo−p−dioxins.
209. Criteria for these metals are measured as total recoverable metal. However, they may be applied as dissolved metals when, as part of a permit application, a dissolved metals translator has been established according to the procedures described in the document, ”Guidance for Establishing a Metal Translator”, Florida Department of Environmental Protection, December 17, 2001.
210. In the absence of concentration data specific for the III and VI valence states of chromium, total chromium concentrations in surface water should be compared to the criteria for Chromium (hexavalent).
211. These values were derived assuming soil pH 6.8. These leachability values are dependent upon both the metal concentration in soil and soil characteristics. Thus, if site−specific soil characteristics are different than the defaults, these leachability values may not apply. If this is the case, site−specific leachability values should be derived using methods such as TCLP or SPLP.
212. Phytotoxicity must be considered.
213. Unless concentrations for both chromium III and VI are known, total chromium concentrations should be compared with direct exposure SCTLs for chromium VI.
214. Expressed as dissolved.
215. Expressed as total recoverable.
216. Criteria do not apply to waters subject to water quality objectives in Tables III−2A and III−2B of the San Francisco Bay Regional Water Quality Control Board’s 1986 Basin Plan.
217. Criterion most appropriately applied to the sum of alpha−Endosulfan and beta−Endosulfan.
218. For nonchlorinated phenolic compounds.
219. For chlorinated phenolic compounds.
220. For benzene hexachloride isomers.
221. Value developed for chromium (VI); may be applied to total chromium if valence is unknown.
222. For the sum of alpha−Endosulfan, beta−Endosulfan, and Endosulfan sulfate.
223. Expressed as nitrogen.
224. For total chlorine residual.
225. For dissolved chloride associated with sodium; criterion probably will not be adequately protective when chloride is associated with potassium, calcium, or magnesium rather than sodium.
226. Expressed as free cyanide (as CN).
227. For pH between 6.5 and 9.0. Use of Water−Effects Ratios might be appropriate because: (1) aluminum is less toxic at higher pH and hardness but relationship not well quantified; (2) aluminum associated with clay

particles may be less toxic than that associated with aluminum hydroxide particles; and (3) many high quality waters in U.S. exceed 87 ug/L as total or dissolved.

228. Applies to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).
229. Interim.
230. This value is for ruminant livestock. For non−ruminants, use 0.284
231. See the Ecological Soil Screening Level for Aluminum, Interim Final, OSWER Directive 9285.7−60 here
232. See the Ecological Soil Screening Level for Iron, Interim Final, OSWER Directive 9285.7−69 here
233. The chronic freshwater−based and chronic tissue−based criteria are independently applicable and no one criterion takes primacy. The value here is for water. Other values are as follows: 0.000028 mg/kg wet weight for invertebrate whole−body tissue; 0.000201 mg/kg wet weight for fish whole−body tissue; and 0.000087 mg/kg wet weight for fish muscle tissue.
234. The chronic freshwater−based and chronic tissue−based criteria are independently applicable and no one criterion takes primacy. The value here is for water. Other values are as follows: 0.00108 mg/kg wet weight for invertebrate whole−body tissue; 0.00649 mg/kg wet weight for fish whole−body tissue; and 0.000133 mg/kg wet weight for fish muscle tissue.
235. pH 6.5−9.0
236. Criteria is for total dissolved form.
237. Freshwater criteria calculated using the EPA Biotic Ligand Model.
238. Cyanide measured as free cyanide at the lowest pH occurring in the receiving water or cyanide amenable to chlorination.
239. The one−hour average concentration of total ammonia nitrogen (in mg TAN/L) is not to exceed, more than once every three years on the average, the CMC (acute criterion magnitude) calculated using the following equation: CMC = MIN((0.275/(1+10ˆ(7.204−pH)))+(39/(1+10ˆ(pH−7.204)))), (0.7249*((0.0114/(1+10ˆ(7.204−pH)) +(1.6181/(1+10ˆ(pH−7.204)))*(23.12*10ˆ(0.036*(20−t))), where pH = pH of interest, t = temperature degrees Celsius.
240. The thirty−day rolling average concentration of total ammonia nitrogen (in mg TAN/L) is not to exceed, more than once every three years on the average, the chronic criterion magnitude (CCC) calculated using the following equation: CCC = 0.8876*((0.0278/(1+10ˆ(7.688−pH)))+(1.1994/(1+10ˆ(pH−7.688))))* (2.126*10ˆ(0.028*(20−MAX(T where pH = pH of interest, t = temperature degrees Celsius. In addition, the highest 4−day average withinthe 30−day averaging period should not be more than 2.5 times the CCC more than once in 3 years on average.
241. Value = EXPˆ(0.9789*LN(hardness)−3.866)*(1.136672−((LN(hardness)*(0.041838)))), where EXP = e=2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
242. Value = EXPˆ(0.7977*LN(hardness)−3.909)*(1.101672−((LN(hardness)*(0.041838)))), where EXP = e=2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
243. Value = 0.316*EXP(0.819*LN(hardness)+3.7256), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
244. Value = 0.86*EXP(0.819*LN(hardness)+0.6848), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
245. Value = (1.46203−LN(hardness)*0.145712)* EXP(1.273*LN(hardness)−1.460), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
246. Value = (1.46203−LN(hardness)*0.145712)* EXP(1.273*LN(hardness)−4.705), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
247. Value = 0.998*EXP(0.8460*LN(hardness)+2.255), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
248. Value = 0.997*EXP(0.8460*LN(hardness)+0.0584), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
249. Value = EXP(1.005*pH−4.869), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.
250. Value = EXP(1.005*pH−5.134), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.

251. Value = 0.85*EXP(1.72*LN(hardness)−6.59), where EXP = e =2.71828, LN = natural log base e, and hardness is expressed as mg/L as CaCO3.