

Stormwater: Discharge Parameter Benchmark Values Reference

Department: Environmental Protection

Program: Stormwater

Owner: Program Manager, Darrin Gambelin

Authority: ES&H Manual, Chapter 26, Stormwater

Parameter Name	Benchmark Level	Source
Biochemical Oxygen Demand (5 day)	30 mg/L	4
Chemical Oxygen Demand	120 mg/L	5
Total Suspended Solids	100 mg/L	7
Oil and Grease	15 mg/L	8
Nitrate + Nitrite Nitrogen	0.68 mg/L	7
Total Phosphorus	2.0 mg/L	6
pH	6.0–9.0 s.u	4
Acrylonitrile (c)	7.55 mg/L	2
Aluminum, Total (pH 6.5-9)	0.75 mg/L	1
Ammonia	19 mg/L	1
Antimony, Total	0.636 mg/L	9
Arsenic, Total (c)	0.16854 mg/L	9
Benzene	0.01 mg/L	10
Beryllium, Total (c)	0.13 mg/L	2
Butylbenzyl Phthalate	3 mg/L	3
Cadmium, Total (H)	0.0159 mg/L	9
Chloride	860 mg/L	1
Copper, Total (H)	0.0636 mg/L	9
Cyanide, Total	0.0636 mg/l	9
Dimethyl Phthalate	1.0 mg/L	11
Ethylbenzene	3.1 mg/L	3
Fluoranthene	0.042 mg/L	3
Fluoride...	1.8 mg/L	6
Iron, Total	1.0 mg/L	12
Lead, Total (H)	0.0816 mg/L	1
Magnesium, Total	0.0636 mg/l	9
Manganese	1.0 mg/L	13

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Parameter Name	Benchmark Level	Source
Mercury, Total	0.0024 mg/L	1
Nickel, Total (H)	1.417 mg/L	1
PCB-1016 (c)	0.000127 mg/L	9
PCB-1221 (c)	0.10 mg/L	10
PCB-1232 (c)	0.000318 mg/L	9
PCB-1242 (c)	0.00020 mg/L	10
PCB-1248 (c)	0.002544 mg/L	9
PCB-1254 (c)	0.10 mg/L	10
PCB-1260 (c)	0.000477 mg/L	9
Phenols, Total	1.0 mg/L	11
Pyrene (PAH,c)	0.01 mg/L	10
Selenium, Total (*)	0.2385 mg/L	9
Silver, Total (H)	0.0318 mg/L	9
Toluene	10.0 mg/L	3
Trichloroethylene (c)	0.0027 mg/L	3
Zinc, Total (H)	0.117 mg/L	1

Sources

1. "EPA Recommended Ambient Water Quality Criteria". Acute Aquatic Life Freshwater
2. "EPA Recommended Ambient Water Quality Criteria". LOEL Acute Freshwater
3. "EPA Recommended Ambient Water Quality Criteria". Human Health Criteria for Consumption of Water and Organisms
4. Secondary Treatment Regulations (40 CFR 133)
5. Factor of 4 times BOD5 concentration – North Carolina benchmark
6. North Carolina stormwater benchmark derived from NC Water Quality Standards
7. National Urban Runoff Program (NURP) median concentration
8. Median concentration of Stormwater Effluent Limitation Guideline (40 CFR Part 419)
9. Minimum Level (ML) based upon highest Method Detection Limit (MDL) times a factor of 3.18
10. Laboratory derived Minimum Level (ML)
11. Discharge limitations and compliance data
12. "EPA Recommended Ambient Water Quality Criteria". Chronic Aquatic Life Freshwater
13. Colorado – Chronic Aquatic Life Freshwater – Water Quality Criteria

Notes

(*) Limit established for oil and gas exploration and production facilities only

(c) Carcinogen

(H) Hardness dependent

(PAH) Polynuclear aromatic hydrocarbon

Assumptions

Receiving water temperature -20 C

Receiving water pH -7.8

Receiving water hardness CaCO3 100 mg/L

Receiving water salinity 20 g/kg

Acute to Chronic Ratio (ACR) -10