

Table 8. Constituent Mass Loadings and Concentrations in Typical Residential Wastewater ^a

Constituent	Parameter	
	Mass Loading (grams/person/day)	Concentration (mg/L) ^b
Total solids (TS)	115 – 200	500 – 880
Volatile solids	65 – 85	280 – 375
Total suspended solids (TSS)	35 – 75	155 – 330
Volatile suspended solids	25 – 60	110 – 265
Five-day biological oxygen demand (BOD ₅)	35 – 65	155 – 286
Chemical oxygen demand (COD)	115 – 150	500 – 660
Total nitrogen (TN)	6 – 17	26 – 75
Ammonia (NH ₄ ⁺)	1 – 3	4 – 13
Nitrites (N-NO ₂) and nitrates (N-NO ₃)	<1	<1
Total phosphorus (TP) ^c	1 – 2	6 – 12
Fats, oils, and grease	12 – 18	70 – 105
Volatile organic compounds (VOC)	0.02 – 0.07	0.1 – 0.3
Surfactants	2 – 4	9 – 18
Total Coliforms (TC) ^d		10 ⁸ – 10 ¹⁰
Fecal Coliforms (FC) ^d		10 ⁶ – 10 ⁸

^a For typical residential dwellings equipped with standard water-using fixtures and appliances. Table source: USEPA, Onsite Wastewater Treatment Systems Manual, 2002 (EPA/625R-00-008), Table 3-7, page 3-11, which was in turn adapted from Bauer et al, 1979; Bennett and Linstedt, 1975; Laak, 1975, 1986; Sedlak, 1991; Tchobanoglous and Burton, 1991.

^b Milligrams per liter; assumed water use of 60 gallons/person/day (227 liters/person/day).

^c The detergent industry has lowered the TP concentrations since early literature studies; therefore, Sedlak (1991) was used for TP data.

^d Concentrations presented in Most Probable Number of organisms per 100 milliliters.