

APPENDIX D
U.S. EPA Septage Design Guideline

PHYSICAL AND CHEMICAL CHARACTERISTICS OF SEPTAGE,
AS FOUND IN THE LITERATURE, WITH SUGGESTED DESIGN VALUES^{a, b}

Parameter	United States (5) (9-19)					Europe/Canada (4) (20)					Suggested Design Value
	Average	Minimum	Maximum	Variance	Average	Minimum	Maximum	Variance	EPA Mean		
TS	34,106	1,132	130,475	115	33,800	200	123,860	619	38,800	40,000	
TVS	23,100	353	71,402	202	31,600	160	67,570	422	25,260	25,000	
TSS	12,862	310	93,378	301	45,000	5,000	70,920	14	13,000	15,000	
VSS	9,027	95	51,500	542	29,900	4,000	52,370	13	8,720	10,000	
BOD ₅	6,480	440	78,600	179	8,343	700	25,000	36	5,000	7,000	
COD	31,900	1,500	703,000	469	28,975	1,300	114,870	88	42,850	15,000	
TKN	588	66	1,060	16	1,067	150	2,570	17	677	700	
NH ₃ -N	97	3	116	39	--	--	--	--	157	150	
Total P	210	20	760	38	155	20	636	32	253	250	
Alkalinity	970	522	4,190	8	--	--	--	--	--	1,000	
Grease	5,600	208	23,368	112	--	--	--	--	9,090	8,000	
pH	--	1.5	12.6	8.0	--	5.2	9.0	--	6.9	6.0	
LAS	--	110	200	2	--	--	--	--	157	150	

^a Values expressed as mg/l, except for pH

^b The data presented in this table were compiled from many sources. The inconsistency of individual data sets results in some skewing of the data and discrepancies when individual parameters are compared. This is taken into account in offering suggested design values.

^c Appendix - Table No. 1 including footnotes is taken from the USEPA Handbook entitled "Septage Treatment and Disposal" 1984, EPA-625/6-84-009 and is designated in that document as "Table 3-4".

TABLE No. 2*

COMPARISON OF SEPTAGE AND MUNICIPAL WASTEWATER*

Parameter	Septage ^b	Wastewater ^c	Ratio of Septage to Wastewater
TS	40,000	720	55:1
TVS	25,000	365	68:1
TSS	15,000	220	68:1
VSS	10,000	165	61:1
BOD ₅	7,000	220	32:1
COD	15,000	500	30:1
TKN	700	40	17:1
NH ₃ -N	150	25	6:1
Total P	250	8	31:1
Alkalinity	1,000	100	10:1
Grease	8,000	100	80:1
pH	6.0	—	—
LAS	150	—	—

^a Values expressed as mg/l, except for pH

^b Based on suggested design values in Appendix - Table No. 1 (USEPA Table 3-4)

^c From Metcalf and Eddy, 2nd Edition, "medium strength sewage"

* Appendix - Table No. 2 including footnotes is taken from the USEPA Handbook entitled "Septage Treatment and Disposal" 1984, EPA-625-84-009 and is designated in that document as "Table 3-8".