Table 747-4
Petroleum EC Fraction Physical / Chemical Values.

Fuel Fraction	Equivalent Carbon Number[1]	Water Solubility[2] (mg/L)	Molecular Weight[3] (g/mol)	Henry's Constant[4] (cc/cc)	Gram Formula Weight[5] (mg/mol)	Density[6] (mg/l)	Soil Organic Carbon-Water Partitioning Coefficient Koc[7] (L/kg)
ALIPHATICS							
EC 5 – 6	5.5	36.0	81.0	33.0	81,000	670,000	800
EC > 6 – 8	7.0	5.4	100.0	50.0	100,000	700,000	3,800
EC > 8 – 10	9.0	0.43	130.0	80.0	130,000	730,000	30,200
EC > 10 – 12	11.0	0.034	160.0	120.0	160,000	750,000	234,000
EC > 12 – 16	14.0	7.6E-04	200.0	520.0	200,000	770,000	5.37E+06
EC > 16 – 21	19.0	1.3 E-06	270.0	4,900	270,000	780,000	9.55E+09
EC > 21 – 34	28.0	1.5E-11	400.0	100,000	400,000	790,000	1.07E+10
AROMATICS							
EC > 8 – 10	9.0	65.0	120.0	0.48	120,000	870,000	1,580
EC > 10 – 12	11.0	25.0	130.0	0.14	130,000	900,000	2,510
EC > 12 – 16	14.0	5.8	150.0	0.053	150,000	1,000,000	5,010
EC > 16 – 21	19.0	0.51	190.0	0.013	190,000	1,160,000	15,800
EC > 21 – 34	28.0	6.6E-03	240.0	6.7E-04	240,000	1,300,000	126,000
TPH COMPONENTS							
Benzene	6.5	1,750	78.0	0.228	78,000	876,500	62.0
Toluene	7.6	526.0	92.0	0.272	92,000	866,900	140.0
Ethylbenzene	8.5	169.0	106.0	0.323	106,000	867,000	204.0
Total Xylenes[8] (average of 3)	8.67	171.0	106.0	0.279	106,000	875,170	233.0
n-Hexane[9]	6.0	9.5	86.0	74.0	86,000	659,370	3,410
MTBE[10]		50,000	88.0	0.018	88,000	744,000	10.9
Naphthalenes	11.69	31.0	128.0	0.0198	128,000	1,145,000	1,191

Sources:

1 **Equivalent Carbon Number.** Gustafson, J.B. et al., *Selection of Representative TPH Fractions Based on Fate and Transport Considerations. Total Petroleum Hydrocarbon Criteria Working Group Series*, Volume 3 (1997) [hereinafter *Criteria Working Group*].

2 **Water Solubility.** For aliphatics and aromatics EC groups, *Criteria Working Group.* For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document.*

3 **Molecular Weight.** *Criteria Working Group.*

4 **Henry's Constant.** For aliphatics and aromatics EC groups, *Criteria Working Group.* For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document.*

5 **Gram Formula Weight (GFW).** Based on 1000 x Molecular Weight.

6 **Density.** For aliphatics and aromatics EC groups, based on correlation between equivalent carbon number and data on densities of individual hazardous substances provided in *Criteria Working Group.* For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document.*

7 **Soil Organic Carbon-Water Partitioning Coefficient.** For aliphatics and aromatics EC groups, *Criteria Working Group.* For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document.*

8 **Total Xylenes.** Values for total xylenes are a weighted average of m, o and p xylene based on gasoline composition data from the *Criteria Working Group* (m= 51% of total xylene; o = 28% of total xylene; and p = 21% of total xylene).

9 **n-Hexane.** For values other than density, *Criteria Working Group.* For the density value, *Hawley's Condensed Chemical Dictionary,* 11th ed., revised by N. Irving Sax and Richard J. Lewis (1987).

10 **MTBE.** *USGS Final Report on Fuel Oxygenates* (March 1996).

Table 747-5
Residual Saturation Screening Levels for TPH.

Fuel	Screening Level (mg/kg)
Weathered Gasoline	1,000
Middle Distillates (e.g., Diesel No. 2 Fuel Oil)	2,000
Heavy Fuel Oils (e.g., No. 6 Fuel Oil)	2,000
Mineral Oil	4,000
Unknown Composition or Type	1,000

Note: The residual saturation screening levels for petroleum hydrocarbons specified in Table 747-5 are based on coarse sand and gravelly soils; however, they may be used for any soil type. Screening levels are based on the presumption that there are no preferential pathways for NAPL to flow downward to ground water. If such pathways exist, more stringent residual saturation screening levels may need to be established.