

Table G1.1 - Contaminant Physiochemical Parameter Inputs

Contaminant	Parameter	Units	UZ partitioning and Source zone Input Value(s)	Justification
Anthracene	Organic Carbon Partition Coefficient (Koc)	ml/g	26000	Table K-2 of US EPA (1996)
	Henry's Law Constant	Dimensionless	0.00267	Table 36 of US EPA (1996)
	Level 1 Remedial Target	mg/kg	0.112	
Benzene	Organic Carbon Partition Coefficient (Koc)	ml/g	67.6	Converted from log koc value in Environment Agency SR7 (2008)
	Henry's Law Constant	Dimensionless	0.233	Converted from 557 Pa m3 mol in EA (2008) to atm m3 mol-1 as per Table 2.2 of EA (2008), and then into dimensionless as per the footnote to Table 5.1 in EA (2006)
	Level 1 Remedial Target	mg/kg	0.031	
Benzo(b)fluoranthene	Organic Carbon Partition Coefficient (Koc)	ml/g	104713	Converted from log koc value in Environment Agency SR7 (2008)
	Henry's Law Constant	Dimensionless	0.0000213	Converted from 0.051 Pa m3 mol in EA (2008) to atm m3 mol-1 as per Table 2.2 of EA (2008), and then into dimensionless as per the footnote to Table 5.1 in EA (2006)
	Level 1 Remedial Target	mg/kg	0.077	
Naphthalene	Organic Carbon Partition Coefficient (Koc)	ml/g	646	Converted from log koc value in Environment Agency SR7 (2008)
	Henry's Law Constant	Dimensionless	0.018	Converted from 43 Pa m3 mol in EA (2008) to atm m3 mol-1 as per Table 2.2 of EA (2008), and then into dimensionless as per the footnote to Table 5.1 in EA (2006)
	Level 1 Remedial Target	mg/kg	0.056	
Toluene	Organic Carbon Partition Coefficient (Koc)	ml/g	204	Converted from log koc value in Environment Agency SR7 (2008)
	Henry's Law Constant	Dimensionless	0.276	Converted from 660 Pa m3 mol in EA (2008) to atm m3 mol-1 as per Table 2.2 of EA (2008), and then into dimensionless as per the footnote to Table 5.1 in EA (2006)
	Level 1 Remedial Target	mg/kg	0.661	

Table G1.2 - Common parameters for Remedial Target Workings

Parameter	Abbreviation	Value	Unit	Justification
Water filled soil porosity	qW	0.295	fraction	Calculated using RTM porosity calculator
Air filled soil porosity	qa	0.022046763	fraction	Calculated using RTM porosity calculator
Bulk density of soil zone material	r	1.9	g/cm3	Estimate based on typical density of made ground
Fraction of organic carbon	foc	0.043	fraction	Average from site contamination testing data
Natural moisture content	-	15.5	% wt	Average from site contamination testing data
Particle density	-	2.78	tonnes/m ³	Default in RTM porosity calculator
Dry bulk density	pB	1.9	tonnes/m ³	Estimate based on typical densities of made ground from past experience

References

Environment Agency (EA) (2006) Remedial Targets Methodology. Hydrogeological Risk Assessment for Land Contamination
 Environment Agency (EA) (2008) Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values.
 US EPA. May 1996. Soil Screening Guidance: Technical Background Document. EPA/540/R95/128. Accessed via: https://rais.onrl.gov/documents/SSG_nonrad_technical.pdf on 07/10/2019.