

**ROSTER OF APPROVED PROFESSIONALS
TECHNICAL – STANDARDS ASSESSMENT FORMULA PACKAGE**

**EQUATION SHEET
Edited: August 2023**

NOTE: This equation sheet is not specific to any particular sitting of the examination; use of all equations and tables will not necessarily be required for completion of any one sitting of the examination. Grouping of equations is for space saving formatting only and does not necessarily represent any other connection between equations.

$RPD = \frac{ R1 - R2 }{\left(\frac{R1 + R2}{2}\right)} \times 100$	RPD = Relative Percent Difference R1 = Sample 1 R2 = Sample 2
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$R_f = 1 + \frac{\rho_b}{n} K_d$	$K_d = K_{oc} f_{oc}$	$\lambda = \frac{0.693}{t_{1/2}}$	$C_s = K_d C_w$
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<p>R_f = retardation factor (dimensionless) K_d = adsorption-desorption distribution coefficient (cm³/g) K_{oc} = organic carbon-water partition coefficient (cm³/g) λ = decay constant (1/s) C_w = concentration in water</p>	<p>ρ_b = bulk density of soil (g/cm³) n = total porosity (dimensionless) f_{oc} = fraction of organic carbon (dimensionless) $t_{1/2}$ = decay (biodegradation) half-life (s) C_s = concentration in soil</p>
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$Q = -KiA$	$K = \frac{k\rho g}{\mu}$	$v = \frac{K}{n_e} \frac{dh}{dl}$	$[C]/[C_o] = \exp(-kt)$
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<p>Q = flux K = hydraulic conductivity i = hydraulic gradient A = cross sectional area</p>	<p>K = hydraulic conductivity k = intrinsic permeability ρ = fluid density g = gravitational constant μ = dynamic viscosity</p>	<p>v = linear velocity K = hydraulic conductivity dh/dl = gradient n_e = effective porosity</p>	<p>C_o = initial concentration C = concentration at time "t" k = rate constant t = time</p>
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$S_s = \rho g (\alpha + n\beta)$	$T = Kb$	$S = S_s b$	$S = \rho gb(\alpha + n\beta)$
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S_s = specific storage
 ρ = fluid density
 g = gravitational constant
 α = aquifer compressibility
 n = porosity
 β = fluid compressibility
 T = transmissivity
 b = thickness
 S = storability

Range of Values of Porosity:

Unconsolidated deposits	n(%)
Gravel	25-40
Sand	25-50
Silt	35-50
Clay	40-70
Bedrock	n(%)
Fractured basalt	5-50
Karst limestone	5-50
Sandstone	5-30
Limestone, dolomite	0-20
Shale	0-10
Fractured crystalline rock	0-10
Dense crystalline rock	0-5

Densities	
Gasoline	0.71
Diesel	0.80
Crude Oil	0.88

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

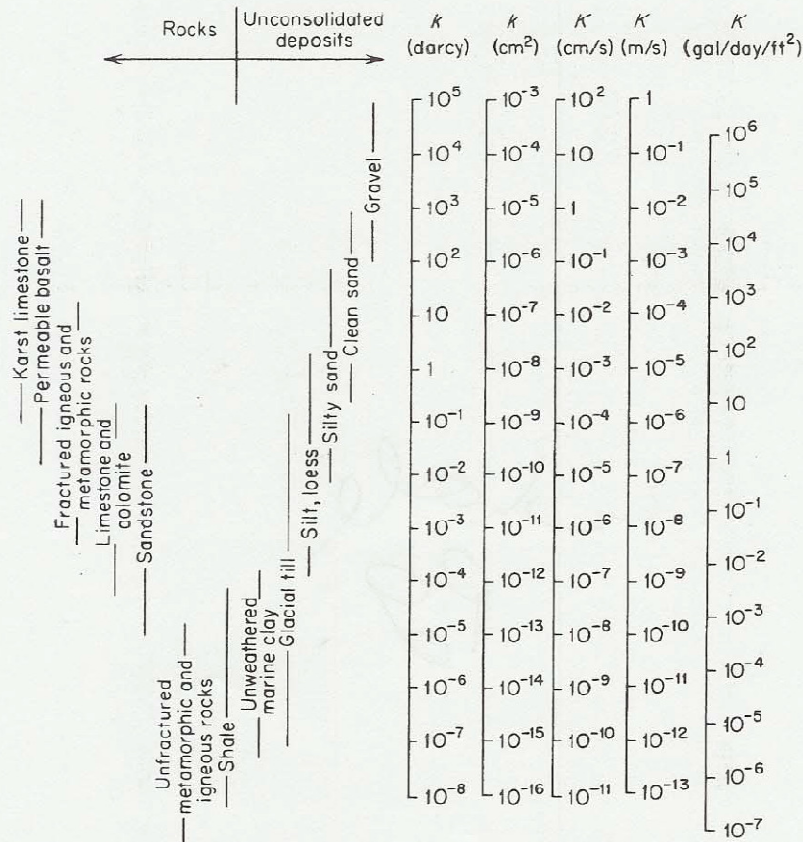


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k^*			Hydraulic conductivity, K		
	cm^2	ft^2	darcy	m/s	ft/s	gal/day/ft^2
cm^2	1	1.08×10^{-3}	1.01×10^8	9.80×10^2	3.22×10^3	1.85×10^9
ft^2	9.29×10^2	1	9.42×10^{10}	9.11×10^5	2.99×10^6	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^1
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^5	1	3.28	2.12×10^6
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^4	3.05×10^{-1}	1	5.74×10^5
gal/day/ft^2	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.74×10^{-6}	1

*To obtain k in ft^2 , multiply k in cm^2 by 1.08×10^{-3} .

require:

determine the water content of the soil.

solution:

Set up the following calculation scheme; fill in the "given" or measured quantities (a), (b), and (d), and make the calculations as indicated for (c), (e), and (f).

- a. Mass of total (wet) sample + dish = 462 g
- b. Mass of dry sample + dish = 364 g
- c. Mass of water (a - b) = 98 g
- d. Mass of dish = 39 g
- e. Mass of dry soil (b - d) = 325 g
- f. Water content (c/e) × 100% = 30.2%

In the laboratory, masses are usually determined in grams (g) on an ordinary chemical balance.

Another very useful concept in geotechnical engineering is density. You know from physics that density is mass per unit volume, so its units are kg/m³. (See Appendix A for the corresponding units in the cgs and British Engineering systems.) The *density* is the ratio that connects the volumetric side of the phase diagram with the mass side. There are several commonly used densities in geotechnical engineering practice. First, we define the total, wet, or moist density ρ , the density of the particles, solid density ρ_s , and the density of water ρ_w . Or, in terms of the basic masses and volumes of Fig. 2.2:

$$\rho = \frac{M_t}{V_t} = \frac{M_s + M_w}{V_t} \quad (2-6)$$

$$\rho_s = \frac{M_s}{V_s} \quad (2-7)$$

$$\rho_w = \frac{M_w}{V_w} \quad (2-8)$$

In natural soils, the magnitude of the total density ρ will depend on how much water happens to be in the voids as well as the density of the mineral grains themselves, but ρ could range from slightly above 1000 kg/m³ to as high as 2400 kg/m³ (1.0 to 2.4 Mg/m³). Typical values of ρ_s for most soils range from 2500 to 2800 kg/m³ (2.5 to 2.8 Mg/m³). Most sands have ρ_s ranging between 2.6 and 2.7 Mg/m³. For example, a

common mineral in sands is quartz; its $\rho_s = 2.65 \text{ Mg/m}^3$. Most clay soils have a value of ρ_s between 2.65 and 2.80 Mg/m³, depending on the predominant mineral in the soil, whereas organic soils may have a ρ_s as low as 2.5 Mg/m³. Consequently, it is usually close enough for geotechnical work to assume a ρ_s of 2.65 or 2.70 Mg/m³ for most phase problems, unless a specific value of ρ_s is given.

The density of water varies slightly, depending on the temperature. At 4°C, when water is at its densest, ρ_w exactly equals 1000 kg/m³ (1 g/cm³), and this density is sometimes designated by the symbol ρ_o . For ordinary engineering work, it is sufficiently accurate to take $\rho_w \approx \rho_o = 1000 \text{ kg/m}^3 = 1 \text{ Mg/m}^3$.

There are three other useful densities in soils engineering. They are the dry density ρ_d , the saturated density ρ_{sat} , and the submerged or buoyant density ρ' .

$$\rho_d = \frac{M_s}{V_t} \quad (2-9)$$

$$\rho_{sat} = \frac{M_s + M_w}{V_t} (V_a = 0, S = 100\%) \quad (2-10)$$

$$\rho' = \rho_{sat} - \rho_w \quad (2-11)$$

Strictly speaking, total ρ should be used instead of ρ_{sat} in Eq. 2-11, but in most cases completely submerged soils are also completely saturated, or at least it is reasonable to assume they are saturated. The dry density ρ_d is a common basis for judging the degree of compaction of earth embankments (Chapter 5). A typical range of values of ρ_d , ρ_{sat} , and ρ' for several soil types is shown in Table 2-1.

From the basic definitions provided in this section, other useful relationships can be derived, as we show in the examples in the next section.

TABLE 2-1 Some Typical Values for Different Densities of Some Common Soil Materials*

Soil Type	Density (Mg/m ³)		
	ρ_{sat}	ρ_d	ρ'
Sands and gravels	1.9-2.4	1.5-2.3	1.0-1.3
Silts and clays	1.4-2.1	0.6-1.8	0.4-1.1
Glacial tills	2.1-2.4	1.7-2.3	1.1-1.4
Crushed rock	1.9-2.2	1.5-2.0	0.9-1.2
Peats	1.0-1.1	0.1-0.3	0.0-0.1
Organic silts and clays	1.3-1.8	0.5-1.5	0.3-0.8

*Modified after Hansbo (1975).

Contaminant	Molecular Weight		Volatility Parameters			Melting Point		Density		Diffusivity in Air and Water			Partition Coefficients				Water Solubility		Tapwater Dermal Parameters														
	Analyte	CAS No.	MW	MW Ref	H' (unitless)	HLC (atm-m ³ /mole)	H and HLC Ref	VP mmHg	VP Ref	MP °C	MP Ref	Density (g/cm ³)	Density Ref	Dia (cm ² /s)	Dw (cm ² /s)	D ₁₀ and D ₅₀ Ref	K _d (L/kg)	K _{oc} Ref	K _{oc} (L/kg)	K _{oc} Ref	log K _{ow} (unitless)	log K _{ow} Ref	S (mg/L)	S Ref	B (unitless)	T _{event} (hr/event)	t _r (hr)	K _p (cm ² /hr)	K _r Ref				
Carbonyl Sulfide	463-58-1	6.0E+01	PHYSPROP	2.5E+01	6.1E-01	EPI	9.4E-03	PHYSPROP	1.4E+02	PHYSPROP	1.0E+00	CRC89	1.2E-01	1.3E-05	WATER (U.S. EPA 2001)			1.0E+00	EPI	1.3E+00	PHYSPROP	1.2E+03	PHYSPROP	2.8E-04	2.3E-01	5.5E-01	9.4E-05	EPI					
Carbosulfan	55285-14-8	3.8E+02	PHYSPROP	2.1E+05	5.1E-07	EPI	3.1E-07	PHYSPROP	2.5E+01	PHYSPROP	1.0E+00	CRC89	1.8E-02	4.4E-08	WATER (U.S. EPA 2001)			1.2E+04	EPI	5.6E+00	PHYSPROP	3.0E-01	PHYSPROP	4.3E-01	1.4E+01	3.4E+01	5.8E-05	EPI					
Carbazole	5234-64-4	1.3E+02	PHYSPROP	1.3E-08	3.2E-10	EPI	1.5E-07	PHYSPROP	3.2E+01	PHYSPROP	1.0E+00	CRC89	5.9E-02	6.8E-06	WATER (U.S. EPA 2001)			1.7E+02	EPI	2.1E+00	PHYSPROP	1.5E+02	PHYSPROP	5.0E-03	2.5E-02	2.5E+00	1.0E-03	RAGSE					
Carbo oxide	1306-38-3	1.7E+02	CRC89																														
Carbonyl Chloride	302-17-0	1.7E+02	PHYSPROP	1.4E-03	5.7E-09	PHYSPROP	5.4E-02	PHYSPROP	2.5E+03	CRC89	7.2E+00	CRC89	5.4E-02	1.0E-05	WATER (U.S. EPA 2001)			1.0E+00	EPI	9.9E-01	PHYSPROP	7.9E+05	PHYSPROP	4.2E-03	9.8E-01	2.1E+00	8.4E-04	RAGSE					
Carbonyl Sulfide	133-90-4	2.1E+02	PHYSPROP	1.6E-09	3.9E-11	EPI	1.0E-07	PHYSPROP	2.0E+02	PHYSPROP	1.0E+00	CRC89	5.4E-02	6.4E-08	WATER (U.S. EPA 2001)			2.1E+01	EPI	1.9E+00	PHYSPROP	7.0E+02	PHYSPROP	1.1E-02	1.5E+00	3.6E+00	2.0E-03	RAGSE					
Chloral	118-75-2	2.3E+02	PHYSPROP	1.6E-08	3.3E-10	PHYSPROP	2.3E-06	PHYSPROP	2.9E+02	PHYSPROP	1.0E+00	CRC89	4.8E-02	5.7E-08	WATER (U.S. EPA 2001)			3.1E+02	EPI	2.2E+00	PHYSPROP	2.5E+02	PHYSPROP	1.2E-02	2.5E+00	6.0E+00	1.3E-03	EPI					
Chloral hydrate	12789-03-8	2.0E+03	PHYSPROP	2.0E-03	4.9E-05	EPI	1.0E-05	PHYSPROP	1.1E+02	PHYSPROP	1.6E+00	CRC89	6.1E-02	9.4E-06	WATER (U.S. EPA 2001)			6.2E+00	EPI	8.3E+00	EPI	8.3E+00	EPI	3.1E+02	3.1E+02	9.9E-01	6.3E-01	RAGSE					
Chloraloxone (Kopone)	143-50-0	4.9E+02	PHYSPROP	2.2E-06	5.4E-08	EPI	2.3E-07	PHYSPROP	3.5E+02	EPI	1.6E+00	CRC89	2.0E-02	4.9E-06	WATER (U.S. EPA 2001)			1.8E+04	EPI	5.4E+00	PHYSPROP	2.7E+00	PHYSPROP	9.3E-02	5.9E+01	1.4E+02	1.1E-02	EPI					
Chlorobenzene	470-90-6	3.6E+02	PHYSPROP	1.2E-06	2.9E-08	EPI	7.5E-06	PHYSPROP	2.0E+01	PHYSPROP	1.0E+00	CRC89	3.8E-02	4.4E-08	WATER (U.S. EPA 2001)			1.3E+03	EPI	3.8E+00	PHYSPROP	1.2E+02	PHYSPROP	3.7E-02	1.1E+01	2.6E+01	5.1E-03	EPI					
Chlorobenzene	90982-32-4	4.1E+02	PHYSPROP	7.4E-14	1.8E-15	PHYSPROP	4.0E-12	PHYSPROP	1.9E+02	PHYSPROP	2.9E+00	CRC89	3.4E-02	4.0E-08	WATER (U.S. EPA 2001)			7.2E+01	EPI	2.5E+00	PHYSPROP	1.2E+03	PHYSPROP	2.6E-03	2.2E+01	8.3E+01	3.4E-04	EPI					
Chlorobenzene	7762-85-5	4.9E-01	1.2E-02																														
Chlorine Dioxide	10049-04-4	6.7E+01	EPI	1.6E+00	4.0E-02	Tomax HSDS	7.0E-02	Tomax HSDS	5.5E+01	CRC89	2.9E+00	CRC89	1.8E-01	2.2E-05	WATER (U.S. EPA 2001)			2.5E-01	BAES														
Chlorite (Sodium Salt)	7758-19-2	9.0E+01	EPI																														
Chloro-1,1-difluoroethane, 1-	75-69-3	1.0E+02	PHYSPROP	2.4E+00	5.9E-02	PHYSPROP	2.5E+03	PHYSPROP	1.3E+02	PHYSPROP	1.1E+00	CRC89	6.0E-02	1.0E-05	WATER (U.S. EPA 2001)			4.4E+01	EPI	2.1E+00	PHYSPROP	6.4E+05	CRC89	3.7E-03	3.4E-01	8.1E-01	1.0E-03	RAGSE					
Chloro-1,3-butadiene, 2-	126-99-3	9.8E+01	PHYSPROP	2.3E+00	5.9E-02	PHYSPROP	2.2E+02	PHYSPROP	1.3E+02	PHYSPROP	1.1E+00	CRC89	6.4E-02	1.0E-05	WATER (U.S. EPA 2001)			6.1E+01	EPI	2.5E+00	PHYSPROP	8.7E+02	PHYSPROP	8.8E-02	3.3E-01	7.9E-01	2.4E-02	EPI					
Chloro-2-methylamine HCl, 4-	3165-83-3	1.8E+02	PHYSPROP	6.4E-05	1.6E-06	PHYSPROP	4.1E-02	PHYSPROP	1.8E+02	EPI	1.0E+00	CRC89	6.0E-02	7.0E-06	WATER (U.S. EPA 2001)			3.5E+02	EPI	2.3E+00	PHYSPROP	8.5E+02	PHYSPROP	9.2E-05	1.0E+00	2.5E+00	8.1E-05	EPI					
Chloro-2-methylaniline, 4-	95-69-2	1.4E+02	PHYSPROP	8.1E-05	2.0E-06	PHYSPROP	4.1E-02	PHYSPROP	3.0E+01	PHYSPROP	1.0E+00	CRC89	7.0E-02	8.2E-06	WATER (U.S. EPA 2001)			1.8E+02	EPI	2.3E+00	PHYSPROP	9.5E+02	PHYSPROP	3.7E-02	6.5E-01	1.6E+00	1.8E-03	EPI					
Chloroacetaldehyde, 2-	107-20-0	7.8E+01	PHYSPROP	9.8E-04	2.4E-05	PHYSPROP	6.4E+01	PHYSPROP	1.6E+01	PHYSPROP	1.2E+00	CRC89	1.0E-01	1.2E-05	WATER (U.S. EPA 2001)			1.0E+00	EPI	9.0E-02	PHYSPROP	1.1E+05	PHYSPROP	2.2E-03	2.9E-01	6.9E-01	6.5E-04	EPI					
Chloroacetic Acid	79-11-3	9.4E+01	PHYSPROP	3.8E-07	9.3E-09	PHYSPROP	6.5E-02	PHYSPROP	6.3E+01	PHYSPROP	1.4E+00	CRC89	9.4E-02	1.2E-05	WATER (U.S. EPA 2001)			1.4E+00	EPI	2.2E-01	PHYSPROP	8.6E+05	PHYSPROP	2.4E-03	3.6E-01	8.5E-01	7.3E-04	EPI					
Chloroacetophenone, 2-	532-27-4	1.5E+02	PHYSPROP	1.4E-04	3.5E-06	PHYSPROP	5.4E-03	PHYSPROP	5.7E+01	PHYSPROP	1.3E+00	CRC89	5.2E-02	8.7E-06	WATER (U.S. EPA 2001)			9.9E+01	EPI	1.9E+00	PHYSPROP	1.1E+03	PERRY	1.9E-02	7.7E-01	1.9E+00	4.1E-03	EPI					
Chloroaniline, p-	106-47-8	1.3E+02	PHYSPROP	1.7E-05	1.2E-06	EPI	2.7E-02	PHYSPROP	7.3E+01	PHYSPROP	1.4E+00	CRC89	7.0E-02	1.0E-05	WATER (U.S. EPA 2001)			1.1E+02	EPI	1.8E+00	PHYSPROP	3.9E+03	PHYSPROP	2.2E-02	5.4E-01	1.3E+00	5.0E-03	EPI					
Chlorobenzene sulfonic acid, p-	108-90-7	1.1E+02	PHYSPROP	4.3E-01	3.1E-03	PHYSPROP	1.2E+01	PHYSPROP	4.5E+01	PHYSPROP	1.1E+00	CRC89	7.2E-02	9.5E-08	WATER (U.S. EPA 2001)			2.3E+02	EPI	2.8E+00	PHYSPROP	5.0E+02	PHYSPROP	1.2E-01	4.5E-01	1.1E+00	2.8E-02	EPI					
Chlorobenzene sulfonic acid, p-	98-66-3	1.9E+02	PHYSPROP	7.8E-08	1.9E-09	PHYSPROP	4.3E-06	PHYSPROP	6.7E+01	PHYSPROP	1.0E+00	CRC89	5.7E-02	9.4E-08	WATER (U.S. EPA 2001)			1.6E+01	EPI	5.3E-01	PHYSPROP	3.1E+04	PHYSPROP	3.1E-03	3.1E+02	1.1E+02	6.3E-04	EPI					
Chlorobenzilate	510-15-6	3.3E+02	PHYSPROP	3.0E-06	7.2E-08	EPI	2.2E-06	PHYSPROP	3.7E+01	PHYSPROP	1.3E+00	CRC89	2.2E-02	9.5E-06	WATER (U.S. EPA 2001)			1.5E+03	EPI	4.7E+00	PHYSPROP	1.3E+01	PHYSPROP	2.3E-01	7.0E+00	1.7E+01	3.3E-02	EPI					
Chlorobenzoic Acid, p-	74-11-3	1.6E+02	PHYSPROP	3.0E-06	8.0E-08	PHYSPROP	2.3E-03	PHYSPROP	2.4E+02	PHYSPROP	1.5E+00	PERRY	5.5E-05	9.5E-06	WATER (U.S. EPA 2001)			2.7E+01	EPI	2.7E+00	PHYSPROP	1.7E+01	PHYSPROP	5.8E-02	7.9E-01	1.9E+00	1.2E-02	EPI					
Chlorobenzotrifluoride, 4-	98-56-6	1.8E+02	PHYSPROP	1.4E+00	3.5E-02	PHYSPROP	7.6E+00	PHYSPROP	-3.3E+01	PHYSPROP	1.3E+00	CRC89	3.8E-02	8.0E-08	WATER (U.S. EPA 2001)			1.6E+03	EPI	3.6E+00	PHYSPROP	2.9E+01	PHYSPROP	1.9E-01	1.1E+00	2.6E+00	3.8E-03	EPI					
Chlorobutane, 1-	109-69-3	9.3E+01	PHYSPROP	6.8E-01	1.7E-02	PHYSPROP	1.0E-02	PHYSPROP	1.2E+02	PHYSPROP	8.9E-01	CRC89	7.8E-02	9.3E-08	WATER (U.S. EPA 2001)			7.2E+01	EPI	2.6E+00	PHYSPROP	1.1E+03	PHYSPROP	1.0E-01	3.5E+01	8.3E-01	2.7E-02	EPI					
Chlorofluoromethane	109-69-3	9.4E+01	PHYSPROP	1.7E+00	4.1E-02	PHYSPROP	7.3E-03	PHYSPROP	6.7E+01	PHYSPROP	1.0E+00	CRC89	3.2E-01	1.1E-05	WATER (U.S. EPA 2001)			1.1E+00	PHYSPROP	2.8E+03	PHYSPROP	2.8E+03	PHYSPROP	2.9E-03	3.6E-01	8.5E-01	6.3E-04	EPI					
Chloroethanol, 2-	107-07-3	8.1E+01	PHYSPROP	3.1E-05	7.6E-07	EPI	7.2E+00	PHYSPROP	6.8E+01	PHYSPROP	1.2E+00	CRC89	1.0E-01	1.2E-05	WATER (U.S. EPA 2001)			1.9E+00	EPI	3.0E-02	PHYSPROP	1.0E+06	PHYSPROP	2.0E-03	3.0E-01	7.1E-01	5.8E-04	EPI					
Chloroform	67-66-3	1.2E+02	PHYSPROP	1.5E-01	6.7E-03	PHYSPROP	2.0E+02	PHYSPROP	6.4E+01	PHYSPROP	1.0E+00	CRC89	7.7E-02	1.1E-05	WATER (U.S. EPA 2001)			2.5E+00	EPI	2.0E+00	PHYSPROP	8.0E+03	PHYSPROP	2.9E-02	4.9E-01	1.2E+00	6.8E-03	EPI					
Chloroform	108-90-7	1.1E+02	PHYSPROP	4.7E-01	3.1E-03	PHYSPROP	1.2E+01	PHYSPROP	4.5E+01	PHYSPROP	1.1E+00	CRC89	7.2E-02	9.5E-08	WATER (U.S. EPA 2001)			2.3E+02	EPI	2.8E+00	PHYSPROP	5.0E+02	PHYSPROP	1.2E-01	4.5E-01	1.1E+00	2.8E-02	EPI					
Chloroform	98-66-3	1.9E+02	PHYSPROP	7.8E-08	1.9E-09	PHYSPROP	4.3E-06	PHYSPROP	6.7E+01	PHYSPROP	1.0E+00	CRC89	5.7E-02	9.4E-08	WATER (U.S. EPA 2001)			1.6E+01	EPI	5.3E-01	PHYSPROP	3.1E+04	PHYSPROP	3.1E-03	3.1E+02	1.1E+02	6.3E-04	EPI					
Chloroformate	510-15-6	3.3E+02	PHYSPROP	3.0E-06	7.2E-08	EPI	2.2E-06	PHYSPROP	3.7E+01	PHYSPROP	1.3E+00	CRC89	2.2E-02	9.5E-06	WATER (U.S. EPA 2001)			1.5E+03	EPI	4.7E+00	PHYSPROP	1.3E+01	PHYSPROP	2.3E-01	7.0E+00	1.7E+01	3.3E-02	EPI					
Chlorobenzoic Acid, p-	74-11-3	1.6E+02	PHYSPROP	3.0E-06	8.0E-08	PHYSPROP	2.3E-03																										

Contaminant	Molecular Weight	Volatility Parameters				Melting Point		Density		Diffusivity in Air and Water		Partition Coefficients			Water Solubility		Tapwater Dermal Parameters																		
		Analyte	CAS No.	MW	MW Ref	H ⁺ (unitless)	HLC (atm-m ³ /mole)	H and HLC Ref	VP (mmHg)	VP Ref	MP (C)	MP Ref	Density (g/cm ³)	Density Ref	D _a (cm ² /s)	D _w (cm ² /s)	D _a and D _w Ref	K _{ow} (L/kg)	K _{oc} Ref	K _{oc} (L/kg)	K _{oc} Ref	log K _{ow} (unitless)	log K _{oc} Ref	S (mg/L)	S Ref	B (unitless)	T _{event} (hr/event)	t ⁺ (hr)	K _p (cm ² /hr)	K _a Ref					
Dicamba	1918-00-9	2,2E+02	PHYSPROP	8.9E-08	2.2E-09	EPI	1.3E-05	PHYSPROP	1.2E+02	PHYSPROP	1.6E+00	CRC89	2.8E-02	7.8E-06	WATER (U.S. EPA 2001)	2.9E+01	EPI	2.2E+00	PHYSPROP	8.3E+03	PHYSPROP	8.3E+03	PHYSPROP	1.5E-02	1.8E+00	4.4E+00	1.7E-03	EPI	7.1E-02	5.3E-01	1.3E+00	2.7E-03	EPI		
Dichloro-2-butene, 1,4-	764-41-0	1.3E+02	PHYSPROP	3.5E-01	8.5E-03	PHYSPROP	3.0E+00	EPI	3.5E+00	PHYSPROP	1.6E+00	CRC89	6.7E-02	9.3E-08	WATER (U.S. EPA 2001)	1.3E+02	EPI	2.6E+00	PHYSPROP	5.5E+02	PHYSPROP	5.5E+02	PHYSPROP	1.6E-02	1.8E+00	4.4E+00	1.7E-03	EPI	7.1E-02	5.3E-01	1.3E+00	2.7E-03	EPI		
Dichloro-2-butene, trans-1,4-	110-57-6	1.3E+02	PHYSPROP	2.7E-02	6.6E-04	EPI	3.4E+00	PHYSPROP	2.0E+00	PHYSPROP	1.2E+00	CRC89	6.8E-02	9.3E-08	WATER (U.S. EPA 2001)	1.3E+02	EPI	2.6E+00	PHYSPROP	8.5E+02	PHYSPROP	8.5E+02	PHYSPROP	1.6E-02	1.8E+00	4.4E+00	1.7E-03	EPI	7.1E-02	5.3E-01	1.3E+00	2.7E-03	EPI		
Dichloroacetic Acid	79-43-6	1.3E+02	PHYSPROP	3.4E-07	8.0E-09	PHYSPROP	1.8E-01	PHYSPROP	1.4E+01	PHYSPROP	1.6E+00	CRC89	9.8E-02	1.1E-05	WATER (U.S. EPA 2001)	2.3E+00	EPI	2.9E+00	PHYSPROP	1.0E+06	PHYSPROP	1.0E+06	PHYSPROP	5.3E-03	5.5E-01	1.3E+00	1.2E-03	EPI	5.3E-03	5.5E-01	1.3E+00	1.2E-03	EPI		
Dichlorobenzene, 1,2-	95-50-1	1.5E+02	PHYSPROP	7.8E-02	1.9E-03	PHYSPROP	1.4E+00	PHYSPROP	1.7E+01	PHYSPROP	1.3E+00	CRC89	5.8E-02	8.9E-08	WATER (U.S. EPA 2001)	3.8E+02	EPI	3.4E+00	PHYSPROP	1.6E+02	PHYSPROP	1.6E+02	PHYSPROP	2.1E-01	7.0E-01	1.7E+00	4.5E-02	EPI	2.1E-01	7.0E-01	1.7E+00	4.5E-02	EPI		
Dichlorobenzene, 1,4-	106-86-7	1.5E+02	PHYSPROP	9.9E-02	2.4E-03	PHYSPROP	1.7E+00	PHYSPROP	3.2E+01	PHYSPROP	1.2E+00	CRC89	5.5E-02	8.7E-08	WATER (U.S. EPA 2001)	3.3E+02	EPI	3.4E+00	PHYSPROP	1.6E+01	PHYSPROP	1.6E+01	PHYSPROP	3.1E+00	3.1E+00	1.7E+00	4.5E-02	EPI	3.1E+00	3.1E+00	1.7E+00	4.5E-02	EPI		
Dichlorobenzene, 3,4-	91-94-1	1.5E+02	PHYSPROP	9.1E-02	2.3E-03	PHYSPROP	1.6E+00	PHYSPROP	3.1E+01	PHYSPROP	1.2E+00	CRC89	5.5E-02	8.7E-08	WATER (U.S. EPA 2001)	3.2E+03	EPI	3.4E+00	PHYSPROP	1.6E+02	PHYSPROP	1.6E+02	PHYSPROP	3.3E-01	3.1E+00	1.7E+00	4.5E-02	EPI	3.3E-01	3.1E+00	1.7E+00	4.5E-02	EPI		
Dichlorobenzophenone, 4,4'-	90-98-2	2.5E+02	PHYSPROP	4.4E-05	1.1E-06	PHYSPROP	8.4E-06	PHYSPROP	1.5E+02	PHYSPROP	1.5E+00	CRR9	2.8E-02	8.9E-06	WATER (U.S. EPA 2001)	2.9E+03	EPI	4.4E+00	PHYSPROP	8.3E-01	PHYSPROP	8.3E-01	PHYSPROP	1.3E-01	8.6E-01	2.1E+00	2.1E-02	EPI	1.3E-01	8.6E-01	2.1E+00	2.1E-02	EPI		
Dichlorodifluoromethane	75-71-8	1.2E+02	PHYSPROP	1.4E+01	3.4E-01	PHYSPROP	4.8E-03	PHYSPROP	1.6E+02	PHYSPROP	1.5E+00	PERRY	7.8E-02	1.1E-05	WATER (U.S. EPA 2001)	4.4E+01	EPI	2.2E+00	PHYSPROP	2.4E+03	PHYSPROP	2.4E+03	PHYSPROP	3.8E-02	5.0E-01	1.2E+00	9.0E-03	EPI	3.8E-02	5.0E-01	1.2E+00	9.0E-03	EPI		
Dichloroethane, 1,1-	75-34-3	9.9E+01	PHYSPROP	2.3E-01	5.6E-03	PHYSPROP	2.3E+02	PHYSPROP	9.7E+01	PHYSPROP	1.2E+00	CRC89	8.4E-02	1.1E-05	WATER (U.S. EPA 2001)	3.2E+01	EPI	1.8E+00	PHYSPROP	5.0E+03	PHYSPROP	5.0E+03	PHYSPROP	2.6E-02	3.8E-01	9.0E-01	6.8E-03	EPI	2.6E-02	3.8E-01	9.0E-01	6.8E-03	EPI		
Dichloroethane, 1,2-	107-69-2	9.9E+01	PHYSPROP	4.8E-02	1.2E-03	PHYSPROP	4.0E+01	PHYSPROP	1.5E+02	PHYSPROP	1.2E+00	CRC89	4.0E+01	1.1E-05	WATER (U.S. EPA 2001)	1.5E+03	EPI	1.5E+00	PHYSPROP	8.6E+03	PHYSPROP	8.6E+03	PHYSPROP	1.6E-02	3.8E-01	9.0E-01	4.2E-03	EPI	1.6E-02	3.8E-01	9.0E-01	4.2E-03	EPI		
Dichloroethylenes, 1,1-	75-35-4	9.7E+01	PHYSPROP	1.1E+00	2.6E-02	PHYSPROP	6.0E+02	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	CRC89	8.0E-02	1.1E-05	WATER (U.S. EPA 2001)	3.2E+01	EPI	2.1E+00	PHYSPROP	2.4E+03	PHYSPROP	2.4E+03	PHYSPROP	4.4E-02	3.7E-01	8.8E-01	1.2E-02	EPI	4.4E-02	3.7E-01	8.8E-01	1.2E-02	EPI		
Dichloroethylenes, 1,2-cis-	156-59-2	9.7E+01	PHYSPROP	1.7E-01	4.1E-03	PHYSPROP	2.0E+02	PHYSPROP	8.0E+01	PHYSPROP	1.3E+00	CRC89	8.8E-02	1.1E-05	WATER (U.S. EPA 2001)	4.0E+01	EPI	1.9E+00	PHYSPROP	6.4E+03	PHYSPROP	6.4E+03	PHYSPROP	4.2E-02	3.7E-01	8.8E-01	1.1E-02	EPI	4.2E-02	3.7E-01	8.8E-01	1.1E-02	EPI		
Dichloroethylenes, 1,2-trans-	156-60-5	9.7E+01	PHYSPROP	3.9E-01	9.4E-03	PHYSPROP	3.3E+02	EPI	5.0E+01	PHYSPROP	1.3E+00	CRC89	8.8E-02	1.1E-05	WATER (U.S. EPA 2001)	4.0E+01	EPI	2.1E+00	PHYSPROP	4.5E+03	PHYSPROP	4.5E+03	PHYSPROP	4.2E-02	3.7E-01	8.8E-01	1.1E-02	EPI	4.2E-02	3.7E-01	8.8E-01	1.1E-02	EPI		
Dichloroethoxy Acetic Acid, 2,4-	120-93-2	1.6E+02	PHYSPROP	1.9E-04	4.3E-06	EPI	3.0E-02	PHYSPROP	1.5E+01	PHYSPROP	1.4E+00	PERRY	4.3E-02	8.7E-08	WATER (U.S. EPA 2001)	1.5E+02	SSL	3.1E+00	PHYSPROP	5.5E+03	PHYSPROP	5.5E+03	PHYSPROP	1.3E-01	8.6E-01	2.1E+00	2.1E-02	EPI	1.3E-01	8.6E-01	2.1E+00	2.1E-02	EPI		
Dichloropropane, 1,2-	94-75-7	1.1E+02	PHYSPROP	1.4E-06	3.5E-08	EPI	8.3E-05	PHYSPROP	1.4E+02	PHYSPROP	1.4E+00	PubChem	2.8E-02	7.3E-06	WATER (U.S. EPA 2001)	3.0E+01	EPI	2.8E+00	PHYSPROP	6.8E+02	PHYSPROP	6.8E+02	PHYSPROP	3.8E-02	1.8E+00	4.4E+00	6.8E-03	EPI	3.8E-02	1.8E+00	4.4E+00	6.8E-03	EPI		
Dichloropropane, 1,3-	142-29-9	1.1E+02	PHYSPROP	4.0E-02	9.8E-04	PHYSPROP	1.8E-01	PHYSPROP	1.0E+02	PHYSPROP	1.2E+00	CRC89	7.4E-02	9.8E-08	WATER (U.S. EPA 2001)	7.2E+01	EPI	2.0E+00	PHYSPROP	2.8E+03	PHYSPROP	2.8E+03	PHYSPROP	3.2E-02	4.5E-01	1.1E+00	7.8E-03	EPI	3.2E-02	4.5E-01	1.1E+00	7.8E-03	EPI		
Dichloropropane, 2,3-	616-23-9	1.3E+02	PHYSPROP	1.5E-07	3.6E-09	PHYSPROP	1.6E-01	PHYSPROP	1.4E+00	PHYSPROP	1.2E+00	CRC89	6.9E-02	8.9E-06	WATER (U.S. EPA 2001)	6.5E+00	EPI	7.8E-01	PHYSPROP	4.6E+04	PHYSPROP	4.6E+04	PHYSPROP	4.3E-03	5.5E-01	1.3E+00	9.8E-04	EPI	4.3E-03	5.5E-01	1.3E+00	9.8E-04	EPI		
Dichloropropane, 1,3-	542-75-6	1.1E+02	PHYSPROP	1.5E-01	3.6E-03	PHYSPROP	3.4E+01	PHYSPROP	5.0E+01	PHYSPROP	1.2E+00	LANGE	7.8E-02	1.0E-05	WATER (U.S. EPA 2001)	7.2E+01	EPI	2.0E+00	PHYSPROP	2.8E+03	PHYSPROP	2.8E+03	PHYSPROP	3.4E-02	4.4E-01	1.1E+00	8.3E-03	EPI	3.4E-02	4.4E-01	1.1E+00	8.3E-03	EPI		
Dichloros	62-73-7	2.2E+02	PHYSPROP	2.4E-05	5.7E-07	EPI	1.6E-02	PHYSPROP	6.0E+01	PHYSPROP	1.4E+00	CRC89	2.8E-02	7.3E-06	WATER (U.S. EPA 2001)	5.4E+01	EPI	1.4E+00	PHYSPROP	8.0E+03	PHYSPROP	8.0E+03	PHYSPROP	4.6E-03	1.8E+00	4.4E+00	8.0E-04	EPI	4.6E-03	1.8E+00	4.4E+00	8.0E-04	EPI		
Dichlorophenol	141-86-2	2.4E+02	PHYSPROP	2.1E-09	5.0E-11	PHYSPROP	1.6E-04	PHYSPROP	7.9E+01	EPI	1.2E+00	CRC89	2.3E-02	6.4E-08	WATER (U.S. EPA 2001)	1.7E+01	EPI	0.0E+00	PHYSPROP	1.0E+06	PHYSPROP	1.0E+06	PHYSPROP	4.3E-04	2.2E+00	5.4E+00	7.3E-05	EPI	4.3E-04	2.2E+00	5.4E+00	7.3E-05	EPI		
Dicyclopentadiene	1773-67-6	1.3E+02	PHYSPROP	1.2E-00	2.9E-11	PHYSPROP	2.3E+02	PHYSPROP	1.3E+00	PHYSPROP	1.3E+00	LANGE	4.7E-02	9.5E-08	WATER (U.S. EPA 2001)	1.4E+01	EPI	3.2E+00	PHYSPROP	2.6E+01	PHYSPROP	2.6E+01	PHYSPROP	1.0E-01	1.4E+00	1.4E+00	1.3E-02	EPI	1.0E-01	1.4E+00	1.4E+00	1.3E-02	EPI		
Declin	60-57-1	3.8E+02	PHYSPROP	4.1E-04	1.0E-05	PHYSPROP	2.9E-06	PHYSPROP	1.8E+02	PHYSPROP	1.8E+00	CRC89	2.3E-02	6.0E-06	WATER (U.S. EPA 2001)	2.0E+04	EPI	5.4E+00	PHYSPROP	2.0E-01	PHYSPROP	2.0E-01	PHYSPROP	2.4E-01	1.4E+01	3.4E+01	3.3E-02	EPI	2.4E-01	1.4E+01	3.4E+01	3.3E-02	EPI		
Diesel Engine Exhaust	E17136615																																		
Dihydroanthracene	111-42-2	1.1E+02	PHYSPROP	2.6E-09	3.9E-11	EPI	2.2E-04	PHYSPROP	2.8E+01	PHYSPROP	1.1E+00	CRC89	7.7E-02	9.8E-08	WATER (U.S. EPA 2001)	1.0E+00	EPI	1.4E+00	PHYSPROP	1.0E+06	PHYSPROP	1.0E+06	PHYSPROP	1.8E-04	4.1E-01	9.8E-01	4.5E-05	EPI	1.8E-04	4.1E-01	9.8E-01	4.5E-05	EPI		
Diethylene Glycol Monomethyl Ether	112-34-5	1.6E+02	PHYSPROP	1.9E-07	7.2E-09	PHYSPROP	2.2E-02	PHYSPROP	4.8E+01	PHYSPROP	9.8E-01	CRC89	4.1E-02	7.0E-08	WATER (U.S. EPA 2001)	1.0E+01	EPI	5.6E-01	PHYSPROP	1.0E+06	PHYSPROP	1.0E+06	PHYSPROP	2.2E-03	8.5E-01	2.0E+00	4.5E-04	EPI	2.2E-03	8.5E-01	2.0E+00	4.5E-04	EPI		
Diethylene Glycol Dimethyl Ether	112-34-5	1.6E+02	PHYSPROP	1.9E-07	7.2E-09	PHYSPROP	2.2E-02	PHYSPROP	4.8E+01	PHYSPROP	9.8E-01	CRC89	4.1E-02	7.0E-08	WATER (U.S. EPA 2001)	1.0E+01	EPI	5.6E-01	PHYSPROP	1.0E+06	PHYSPROP	1.0E+06	PHYSPROP	2.2E-03	8.5E-01	2.0E+00	4.5E-04	EPI	2.2E-03	8.5E-01	2.0E+00	4.5E-04	EPI		
Diethylformamide	617-84-5	1.0E+02	PHYSPROP	5.3E-06	1.3E-07	PHYSPROP	1.2E+00	EPI	7.6E+00	EPI	9.1E-01	CRC89	7.3E-02	9.0E-06	WATER (U.S. EPA 2001)	2.1E+00	EPI	5.0E-02	PHYSPROP	1.0E+06	PHYSPROP	1.0E+06	PHYSPROP	1.8E-03	3.9E-01	9.3E-01	4.6E-04	EPI	1.8E-03	3.9E-01	9.3E-01	4.6E-04	EPI		
Diethylstilbestrol	56-53-1	2.7E+02	PHYSPROP	2.4E-06	5.7E-08	PHYSPROP	1.4E-08	PHYSPROP	1.7E+02	PHYSPROP	1.2E+00	CRC89	4.6E-02	6.3E-06	WATER (U.S. EPA 2001)	2.7E+05	EPI	5.1E+00	PHYSPROP	1.2E+01	PHYSPROP	1.2E+01	PHYSPROP	7.2E-01	3.3E+00	1.3E+01	1.1E-01	EPI	7.2E-01	3.3E+00	1.3E+01	1.1E-01	EPI		
Difenzoquinol	43222-48-6	3.6E+02	PHYSPROP	4.1E-12	1.0E-13	PHYSPROP	4.1E-12	PHYSPROP	1.6E+02	PHYSPROP	1.2E+00	CRC89	3.8E-02	4.4E-08	WATER (U.S. EPA 2001)	7.8E+04	EPI	6.5E-01	PHYSPROP																

Contaminant	Molecular Weight		Volatility Parameters			Melting Point		Density		Diffusivity in Air and Water			Partition Coefficients				Water Solubility		Tapwater Dermal Parameters											
	Analyte	CAS No.	MW	MW Ref	H ⁺ (unitless)	HLC (atm-m ³ /mole)	H and HLC Ref	VP (mmHg)	VP Ref	MP (C)	MP Ref	Density (g/cm ³)	Density Ref	D _{air} (cm ² /s)	D _w (cm ² /s)	D _{air} and D _w Ref	K _d (L/kg)	K _{oc} (L/kg)	K _{oc} Ref	log K _{ow} (unitless)	log K _{ow} Ref	S (mg/L)	S Ref	B (unitless)	T _{event} (hr/event)	t ⁺ (hr)	K _p (cm ² /hr)	K _a Ref		
Mercaptoethanol, 2-	149-30-4	176.02	EPI		1.5E-06	3.6E-08	EPI	4.6E-04	EPI	1.8E+02	EPI	1.4E+00	CRC89	4.7E-02	8.7E-06	WATER (U.S. EPA 2001)	1.4E+03	EPI		2.4E+00	EPI	1.2E+02	EPI	3.6E-02	EPI	3.6E-02	9.1E-01	2.2E+00	7.3E-03	EPI
Mercury Compounds -Mercuric Chloride (and other Mercury salts)	7487-94-7	272.02	PHYSPROP		2.2E+02		2.2E+02	PHYSPROP	2.2E+02	PHYSPROP	2.2E+02	5.6E+00	CRC89									6.9E-04	PHYSPROP	6.9E-04	PHYSPROP	6.9E-04	3.5E+00	8.4E+00	1.0E-03	RAGSE
-Mercury (elemental)	7439-97-6	200.02	PHYSPROP		3.5E-01	8.6E-03	PHYSPROP VPS	2.0E-03	PHYSPROP	3.5E+01	PHYSPROP	1.4E+01	CRC89	3.1E-02	6.3E-06	WATER (U.S. EPA 2001)	5.2E+01	SSL		6.2E-01	PHYSPROP	6.0E-02	PHYSPROP	5.4E-03	PHYSPROP	5.4E-03	1.4E+00	3.4E+00	1.0E-03	RAGSE
-Methyl Mercury -Phenylmercury Acetate	22967-92-6	2.2E+02	ChemID																			4.4E+03	PHYSPROP	4.4E+03	PHYSPROP	5.4E-03	1.4E+00	3.4E+00	1.0E-03	RAGSE
Merphos	150-50-5	3.0E+02	PHYSPROP		2.3E-08	5.7E-10	EPI	6.0E-06	PHYSPROP	1.5E+02	PHYSPROP	1.5E+00	CRC89	3.9E-02	4.6E-06	WATER (U.S. EPA 2001)	5.6E+01	EPI		7.1E-01	PHYSPROP	4.4E+03	PHYSPROP	4.2E-04	PHYSPROP	4.2E-04	8.1E+00	1.9E+01	6.0E-05	EPI
Mercaptoethanol, 2-	74-88-2	176.02	PHYSPROP		1.5E-06	3.6E-08	EPI	2.0E-05	PHYSPROP	1.0E+02	PHYSPROP	1.0E+00	CRC89	2.0E-02	3.0E-06	WATER (U.S. EPA 2001)	4.3E+04	EPI		7.7E-01	PHYSPROP	3.3E-03	PHYSPROP	2.8E+01	PHYSPROP	2.8E+01	4.9E+00	2.3E+01	4.2E-05	EPI
Metalaxyl	57837-19-1	2.8E+02	PHYSPROP		1.2E-07	3.0E-09	EPI	5.6E-06	PHYSPROP	7.1E+01	PHYSPROP	1.1E+00	CRC89	4.4E-02	5.2E-06	WATER (U.S. EPA 2001)	3.9E+01	EPI		1.7E+00	PHYSPROP	8.4E+03	PHYSPROP	3.7E-03	PHYSPROP	3.7E-03	2.9E+00	9.3E+00	5.8E-04	EPI
Methachlorinilite	126-98-7	6.7E+01	PHYSPROP		1.0E-02	2.5E-04	EPI	7.1E+01	PHYSPROP	3.8E+01	PHYSPROP	8.0E-01	CRC89	9.8E-02	1.1E-05	WATER (U.S. EPA 2001)	1.3E+01	EPI		6.8E-01	PHYSPROP	6.4E+03	PHYSPROP	5.9E-03	PHYSPROP	5.9E-03	2.5E+01	6.0E-01	1.9E-03	EPI
Methamidophos	10205-92-6	1.4E+02	PHYSPROP		3.5E-08	8.7E-10	EPI	3.5E-05	PHYSPROP	4.6E+01	PHYSPROP	1.3E+00	CRC89	6.0E-02	9.2E-06	WATER (U.S. EPA 2001)	5.4E+00	EPI		8.0E-01	PHYSPROP	1.0E+06	PHYSPROP	3.4E-04	PHYSPROP	3.4E-04	6.5E-01	1.8E+00	7.4E-05	EPI
Methand	95-01-1	1.0E+04	PHYSPROP		1.0E+04	4.6E-06	EPI	1.3E+02	PHYSPROP	6.0E+01	PHYSPROP	7.9E-01	CRC89	2.3E-02	3.6E-06	WATER (U.S. EPA 2001)	2.7E+04	EPI		5.1E+00	PHYSPROP	1.0E-01	PHYSPROP	3.1E-01	PHYSPROP	3.1E-01	9.1E+00	2.2E+01	4.3E-02	EPI
Methidathion	950-37-8	3.0E+02	PHYSPROP		2.9E-07	7.2E-09	EPI	3.4E-06	PHYSPROP	3.9E+01	PHYSPROP	1.4E+00	CRC89	4.2E-02	4.6E-06	WATER (U.S. EPA 2001)	5.2E+00	EPI		2.2E+00	PHYSPROP	1.9E+02	PHYSPROP	6.1E-03	PHYSPROP	6.1E-03	5.2E+00	1.2E+01	9.1E-04	EPI
Methionyl	16752-77-2	1.6E+02	PHYSPROP		8.1E-10	2.0E-11	EPI	5.4E-06	PHYSPROP	7.8E+01	PHYSPROP	1.3E+00	CRC89	4.8E-02	8.4E-06	WATER (U.S. EPA 2001)	1.0E+01	EPI		6.0E-01	PHYSPROP	6.8E+04	PHYSPROP	2.4E-03	PHYSPROP	2.4E-03	8.5E-01	2.0E+00	4.8E-04	EPI
Methoxy-5-nitroaniline, 2-	99-99-2	1.7E+02	PHYSPROP		5.1E-07	1.3E-08	EPI	3.2E-04	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	CRC89	4.3E-02	7.8E-06	WATER (U.S. EPA 2001)	7.1E+01	EPI		1.5E+00	PHYSPROP	1.2E+02	PHYSPROP	8.4E-03	PHYSPROP	8.4E-03	9.2E-01	2.2E+00	1.7E-03	EPI
Methoxychlor	72-43-5	3.5E+02	PHYSPROP		8.3E-06	2.0E-07	EPI	2.6E-06	PHYSPROP	3.7E+01	PHYSPROP	1.4E+00	CRC89	2.3E-02	3.6E-06	WATER (U.S. EPA 2001)	2.7E+04	EPI		5.1E+00	PHYSPROP	1.0E-01	PHYSPROP	3.1E-01	PHYSPROP	3.1E-01	9.1E+00	2.2E+01	4.3E-02	EPI
Methoxyethanol Acetate, 2-	110-49-6	1.2E+02	PHYSPROP		1.3E-05	3.1E-07	EPI	7.0E+00	PHYSPROP	6.5E+01	PHYSPROP	1.0E+00	CRC89	6.8E-02	8.7E-06	WATER (U.S. EPA 2001)	2.5E+00	EPI		1.0E-01	PHYSPROP	1.0E+06	PHYSPROP	1.7E-03	PHYSPROP	1.7E-03	4.8E-01	1.2E+00	4.0E-04	EPI
Methoxyethanol, 2-	109-86-4	7.6E+01	PHYSPROP		1.4E-05	3.3E-07	PHYSPROP	9.5E+00	PHYSPROP	6.5E+01	PHYSPROP	1.0E+00	CRC89	9.5E-02	1.1E-05	WATER (U.S. EPA 2001)	1.0E+00	EPI		7.7E-01	PHYSPROP	1.0E+06	PHYSPROP	6.0E-04	PHYSPROP	6.0E-04	2.8E-01	6.7E-01	1.8E-04	EPI
Methyl Acetate	79-20-9	7.4E+01	PHYSPROP		4.7E-03	1.2E-04	PHYSPROP	2.2E+02	PHYSPROP	9.8E+01	PHYSPROP	9.3E-01	CRC89	9.8E-02	1.1E-05	WATER (U.S. EPA 2001)	3.1E+00	EPI		1.8E-01	PHYSPROP	2.4E+05	PHYSPROP	2.6E-03	PHYSPROP	2.6E-03	2.7E-01	6.6E-01	7.9E-04	EPI
Methyl Acrylate	96-33-3	8.6E+01	PHYSPROP		8.1E-03	2.0E-04	EPI	8.7E+01	PHYSPROP	7.7E+01	PHYSPROP	9.5E-01	CRC89	8.6E-02	1.0E-05	WATER (U.S. EPA 2001)	3.1E+00	EPI		8.0E-01	PHYSPROP	4.9E+04	PHYSPROP	6.2E-03	PHYSPROP	6.2E-03	3.2E-01	7.7E-01	1.8E-03	EPI
Methyl Ethyl Ketone (2-Butanone)	78-93-3	7.2E+01	PHYSPROP		2.3E-03	5.7E-05	PHYSPROP	9.1E+01	PHYSPROP	8.7E+01	PHYSPROP	8.0E-01	CRC89	9.1E-02	1.0E-05	WATER (U.S. EPA 2001)	4.5E+00	EPI		2.9E-01	PHYSPROP	2.2E+05	PHYSPROP	3.1E-03	PHYSPROP	3.1E-03	2.7E-01	6.4E-01	9.6E-04	EPI
Methyl Hydrazine	60-34-4	4.6E+01	PHYSPROP		1.2E-04	3.0E-06	PHYSPROP	5.0E+01	PHYSPROP	5.2E+01	PHYSPROP	8.7E-01	LANGE	1.3E-01	1.4E-05	WATER (U.S. EPA 2001)	1.3E+01	EPI		-1.1E+00	PHYSPROP	1.0E+06	PHYSPROP	4.5E-04	PHYSPROP	4.5E-04	1.9E-01	4.6E-01	1.7E-04	EPI
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	1.0E+02	PHYSPROP		5.6E-03	1.4E-04	EPI	2.0E+01	PHYSPROP	8.2E+01	PHYSPROP	8.0E-01	CRC89	7.0E-02	8.3E-06	WATER (U.S. EPA 2001)	1.3E+01	EPI		1.3E+00	PHYSPROP	1.9E+04	PHYSPROP	1.2E-02	PHYSPROP	1.2E-02	3.8E-01	9.2E-01	3.2E-03	EPI
Methyl Isocyanate	534-83-9	8.7E+01	PHYSPROP		3.9E-02	9.3E-04	PHYSPROP	3.5E+02	PHYSPROP	4.0E+02	PHYSPROP	1.3E+00	CRC89	1.2E-01	1.3E-05	WATER (U.S. EPA 2001)	7.9E-01	EPI		7.9E-01	PHYSPROP	2.9E-04	PHYSPROP	2.9E-04	PHYSPROP	2.9E-04	3.2E-01	6.7E-01	5.1E-04	EPI
Methyl Methacrylate	80-62-6	1.0E+02	PHYSPROP		1.3E-02	3.2E-04	EPI	3.9E+01	PHYSPROP	4.8E+01	PHYSPROP	9.4E-01	CRC89	7.5E-02	9.2E-06	WATER (U.S. EPA 2001)	9.1E+00	EPI		1.4E+00	PHYSPROP	1.5E+04	PHYSPROP	1.4E-02	PHYSPROP	1.4E-02	3.8E-01	9.2E-01	3.6E-03	EPI
Methyl Parathion	298-00-0	2.6E+02	PHYSPROP		1.1E-06	1.0E-07	PHYSPROP	3.5E-06	PHYSPROP	3.6E+01	PHYSPROP	1.4E+00	CRC89	2.9E-02	6.4E-06	WATER (U.S. EPA 2001)	7.3E-02	EPI		2.9E+00	PHYSPROP	3.8E+01	PHYSPROP	2.6E-02	PHYSPROP	2.6E-02	3.1E+00	7.5E+00	4.2E-03	EPI
Methyl Phosphonic Acid	993-13-5	9.6E+01	PHYSPROP		5.0E-10	1.2E-11	PHYSPROP	3.3E-04	EPI	1.1E+02	PHYSPROP	1.4E+00	PHYSPROP	9.1E-02	1.1E-05	WATER (U.S. EPA 2001)	1.4E+00	EPI		-7.0E-01	PHYSPROP	2.0E+04	PHYSPROP	3.7E-04	PHYSPROP	3.7E-04	3.6E-01	8.7E-01	9.8E-05	EPI
Methyl Styrene (Mixed Isomers)	25013-15-4	3.5E+02	PHYSPROP		1.1E-10	2.6E-03	PHYSPROP	1.5E+00	PHYSPROP	8.0E+01	EPI	8.9E-01	HSDB	1.7E-02	4.2E-06	WATER (U.S. EPA 2001)	7.2E-02	EPI		3.4E+00	PHYSPROP	8.8E+01	PHYSPROP	4.8E-01	PHYSPROP	4.8E-01	1.0E+01	2.4E+01	6.6E-05	EPI
Methyl methanesulfonate	66-19-1	1.5E+02	PHYSPROP		3.6E-04	4.0E-06	PHYSPROP	3.1E-01	PHYSPROP	2.7E+01	PHYSPROP	1.3E+00	CRC89	7.5E-02	1.1E-05	WATER (U.S. EPA 2001)	4.3E+00	EPI		8.8E-01	PHYSPROP	2.0E+05	PHYSPROP	2.0E-02	PHYSPROP	2.0E-02	4.2E-01	1.0E+00	5.3E-04	EPI
Methyl tert-Butyl Ether (MTBE)	1634-04-2	8.8E+01	PHYSPROP		2.4E-02	5.9E-04	PHYSPROP	2.5E+02	PHYSPROP	1.1E+02	PHYSPROP	7.4E-01	CRC89	7.5E-02	8.6E-06	WATER (U.S. EPA 2001)	1.2E+01	EPI		9.4E-01	PHYSPROP	5.1E+04	PHYSPROP	7.8E-03	PHYSPROP	7.8E-03	3.3E-01	7.9E-01	2.1E-03	EPI
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	2.0E+02	PHYSPROP		2.6E-16	6.4E-18	PHYSPROP	4.1E-12	PHYSPROP	2.4E+02	EPI			5.8E-02	6.6E-06	WATER (U.S. EPA 2001)	2.0E+02	EPI		-2.1E+00	PHYSPROP	1.0E+06	PHYSPROP	2.9E-05	PHYSPROP	2.9E-05	1.3E+00	3.1E+00	5.4E-06	EPI
Methyl-2-Pentanol, 4-	108-11-2	1.0E+02	PHYSPROP		1.6E-03	4.5E-05	PHYSPROP	5.3E+00	PHYSPROP	8.0E+01	PHYSPROP	8.1E-01	CRC89	6.9E-02	8.3E-06	WATER (U.S. EPA 2001)	8.2E+00	EPI		1.4E+00	PHYSPROP	1.6E+04	PHYSPROP	2.1E-02	PHYSPROP	2.1E-02	3.9E-01	9.4E-01	5.4E-03	EPI
Methyl-Nitroaniline, 2-	108-81-9	1.5E+02	PHYSPROP		3.9E-09	9.3E-10	PHYSPROP	3.8E-02	PHYSPROP	4.0E+01	PHYSPROP	1.3E+00	CRC89	4.7E-02	5.5E-06	WATER (U.S. EPA 2001)	4.9E+02	EPI		3.1E+00	PHYSPROP	5.3E+02	PHYSPROP	2.2E-02	PHYSPROP	2.2E-02	4.1E+00	9.8E+00	3.4E-03	EPI
Methyl-N-Nitro-N-nitrosoguanidine, N-	70-25-7	1.5E+02	PHYSPROP		1.0E-11	1.2E-12	PHYSPROP	1.2E-04	PHYSPROP	1.2E+02	EPI			6.8E-02	8.0E-06	WATER (U.S. EPA 2001)	7.2E-01	EPI		-9.2E-01	PHYSPROP	2.7E+05	PHYSPROP	2.7E-04	PHYSPROP	2.7E-04	7.0E+00	1.7E+00	5.7E-05	EPI
Methylaniline Hydrochloride, 2-	638-21-5	1.4E+02	PHYSPROP		8.6E-05	2.1E-06	PHYSPROP	2.9E-01	PHYSPROP	2.2E+02	PHYSPROP	1.3E+00	CRC89	6.9E-02	8.1E-06	WATER (U.S. EPA 2001)	1.2E+02	EPI		1.6E+00	PHYSPROP	8.3E+03	PHYSPROP	4.8E-05	PHYSPROP	4.8E-05	6.7E-01	1.6E+00	1.1E-05	EPI
Methylsulfonic Acid	124-58-3	1.4E+02	PHYSPROP		1.6																									

Contaminant	Molecular Weight		Volatility Parameters				Melting Point		Density		Diffusivity in Air and Water			Partition Coefficients				Water Solubility		Tapwater Dermal Parameters														
	Analyte	CAS No.	MW	MW Ref	H ⁺ (unitless)	HLC (atm-m ³ /mole)	H ⁺ and HLC Ref	VP mmHg	VP Ref	MP C	MP Ref	Density (g/cm ³)	Density Ref	D _a (cm ² /s)	D _w (cm ² /s)	D _a and D _w Ref	K _d (L/kg)	K _{oc} Ref	K _{ow} (L/kg)	K _{oc} Ref	log K _{ow}	log K _{ow} Ref	S (mg/L)	S Ref	B (unitless)	T _{event} (hr/event)	t _h (hr)	C _p (mg/cm ²)	K _r Ref					
Oxylufen	42874-03-3	3.6E+02	PHYSPROP	3.4E+05	8.2E-07	EPI	2.0E-07	PHYSPROP	8.4E+01	PHYSPROP	1.2E+00	CRC89	2.1E-02	6.3E-06	WATER (U.S. EPA 2001)	4.0E+04	EPI	4.7E+00	PHYSPROP	1.2E+01	PHYSPROP	1.5E-01	PHYSPROP	1.5E-01	1.1E+01	2.7E+01	2.0E-02	EPI	3.1E-02	4.6E+00	1.1E+01	4.7E-03	EPI	
Pachlobarol	76738-62-0	2.9E+02	PHYSPROP	3.4E-09	8.3E-11	EPI	7.5E-09	PHYSPROP	1.7E+02	PHYSPROP	1.4E+00	CRC89	2.2E-02	5.7E-06	WATER (U.S. EPA 2001)	9.2E+02	EPI	3.2E+00	PHYSPROP	6.5E+05	PHYSPROP	3.4E-01	PHYSPROP	3.4E-01	3.9E+00	1.1E+01	2.7E+02	3.7E-02	EPI	3.5E-01	4.5E+00	1.1E+01	1.7E-03	EPI
Paralox Dichloride		4.5E+02	PHYSPROP																															
Perathion	56-38-2	2.9E+02	PHYSPROP	1.2E+05	3.0E-07	PHYSPROP	6.7E-06	PHYSPROP	6.1E+00	PHYSPROP	1.3E+01	CRC89	2.3E-02	5.8E-06	WATER (U.S. EPA 2001)	2.4E+03	EPI	3.8E+00	PHYSPROP	1.1E+01	PHYSPROP	8.4E-02	PHYSPROP	8.4E-02	4.5E+00	1.1E+01	1.3E-02	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Perbutathion	1114-71-2	2.0E+02	PHYSPROP	9.7E+03	2.4E-04	EPI	8.9E-02	PHYSPROP	7.1E+01	EPI	9.5E-01	CRC89	3.3E-02	6.1E-06	WATER (U.S. EPA 2001)	3.0E+02	EPI	3.8E+00	PHYSPROP	1.0E+02	PHYSPROP	2.2E-01	PHYSPROP	2.2E-01	1.4E+00	3.5E+00	4.0E-02	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentachlorobenzene	4080-42-1	2.8E+02	PHYSPROP	3.5E+05	8.6E-07	EPI	1.5E-05	PHYSPROP	5.8E+01	PHYSPROP	1.2E+00	CRC89	2.3E-02	5.7E-06	WATER (U.S. EPA 2001)	5.6E+03	EPI	5.2E+00	PHYSPROP	3.3E-01	PHYSPROP	7.4E-01	PHYSPROP	7.4E-01	1.0E+00	1.5E+01	1.2E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentabromodiphenyl Ether	32534-81-9	6.5E+02	PHYSPROP	4.4E-03	1.1E-04	PHYSPROP	3.1E-08	EPI	5.0E+00	PHYSPROP	2.5E+00	CRC89	2.8E-02	3.2E-06	WATER (U.S. EPA 2001)	2.2E+04	EPI	6.8E+00	PHYSPROP	2.4E+03	PHYSPROP	3.4E-01	PHYSPROP	3.4E-01	3.5E+00	1.1E+01	2.7E+02	3.7E-02	EPI	3.5E-01	4.5E+00	1.1E+01	1.7E-03	EPI
Pentabromodiphenyl ether, 2,2',4,4'- (BDE-99)	620348-60-9	6.5E+02	PHYSPROP	4.8E+05	1.2E-06	EPI	3.1E-08	EPI	6.0E+00	EPI	1.2E+00	IRIS Profile	2.2E-04	3.6E-06	WATER (U.S. EPA 2001)	2.2E+04	EPI	7.7E+00	PHYSPROP	7.9E+05	PHYSPROP	3.4E-01	PHYSPROP	3.4E-01	3.5E+00	1.1E+01	2.7E+02	3.7E-02	EPI	3.5E-01	4.5E+00	1.1E+01	1.7E-03	EPI
Pentachlorobenzene	608-93-5	2.5E+02	PHYSPROP	2.9E-02	7.0E-04	PHYSPROP	1.0E-03	EPI	8.6E+01	PHYSPROP	1.8E+00	CRC89	2.9E-02	7.9E-06	WATER (U.S. EPA 2001)	3.7E+03	EPI	5.2E+00	PHYSPROP	8.3E-01	PHYSPROP	1.0E+00	PHYSPROP	1.0E+00	2.7E+00	1.0E+01	1.7E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentachloroethane	76-01-7	2.0E+02	PHYSPROP	7.9E-02	1.9E-03	EPI	3.5E-03	PHYSPROP	2.9E+01	PHYSPROP	1.7E+00	CRC89	3.2E-02	6.6E-06	WATER (U.S. EPA 2001)	1.4E+02	EPI	3.2E+00	PHYSPROP	4.9E+02	PHYSPROP	8.6E-02	PHYSPROP	8.6E-02	4.7E+00	3.4E+00	1.6E-02	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentachloronitrobenzene	82-68-8	3.0E+02	PHYSPROP	1.8E-03	4.4E-05	EPI	5.0E-05	PHYSPROP	1.4E+02	PHYSPROP	1.7E+00	CRC89	2.8E-02	6.9E-06	WATER (U.S. EPA 2001)	6.0E+03	EPI	4.6E+00	PHYSPROP	1.4E+01	PHYSPROP	2.9E-01	PHYSPROP	2.9E-01	4.7E+00	1.1E+01	4.2E-02	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentachlorophenol	7601-89-0	3.0E+02	PHYSPROP	1.0E-06	2.5E-08	EPI	1.1E-04	PHYSPROP	1.7E+02	PHYSPROP	2.0E+00	CRC89	3.9E-02	6.0E-06	WATER (U.S. EPA 2001)	9.9E+02	SBL	5.1E+00	PHYSPROP	3.9E+02	PHYSPROP	3.9E+02	PHYSPROP	3.9E+02	1.5E+00	1.2E+00	1.3E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentaerythritol tetranitrate (PETN)	78-11-5	3.2E+02	PHYSPROP	5.4E-08	1.3E-09	PHYSPROP	5.5E-09	EPI	1.4E+02	PHYSPROP	1.9E+00	CRC89	2.8E-02	6.9E-06	WATER (U.S. EPA 2001)	6.0E+03	EPI	4.6E+00	PHYSPROP	1.4E+01	PHYSPROP	2.9E-01	PHYSPROP	2.9E-01	4.7E+00	1.1E+01	4.2E-02	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Pentane, n-Perchlorate	109-66-0	7.2E+01	PHYSPROP	5.1E+01	1.3E+00	PHYSPROP	5.1E+02	PHYSPROP	1.3E+02	PHYSPROP	6.3E-01	CRC89	8.2E-02	8.8E-06	WATER (U.S. EPA 2001)	7.2E+01	EPI	3.4E+00	PHYSPROP	3.8E+01	PHYSPROP	3.6E-01	PHYSPROP	3.6E-01	2.7E-01	6.4E-01	1.1E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
-Ammonium Perchlorate	7780-88-9	1.2E+02	PHYSPROP									2.0E+00	CRC89							2.5E+05	PHYSPROP	4.2E-03	PHYSPROP	4.2E-03	4.8E-01	1.1E+00	1.0E-03	RAGSE	1.0E-03	RAGSE				
-Lithium Perchlorate	7791-03-9	1.1E+02	CRC89									2.4E+02	CRC89							5.9E+05	CRC89	4.0E-03	PHYSPROP	4.0E-03	4.1E-01	1.0E+00	1.0E-03	RAGSE	1.0E-03	RAGSE				
-Perchlorate and Perchlorate Salts	14797-73-0	1.2E+02	CRC89									2.4E+00	CRC89							2.5E+05	CRC89	4.2E-03	PHYSPROP	4.2E-03	4.8E-01	1.1E+00	1.0E-03	RAGSE	1.0E-03	RAGSE				
-Potassium Perchlorate	7778-74-7	1.4E+02	PHYSPROP									5.3E+02	PHYSPROP							1.5E+04	PHYSPROP	9.1E-03	PHYSPROP	9.1E-03	6.3E-01	1.5E+00	2.0E-03	RAGSE	2.0E-03	RAGSE				
-Sodium Perchlorate	7601-89-0	1.2E+02	PHYSPROP									4.9E+02	EPI							1.8E+00	LookChem	4.3E-03	PHYSPROP	4.3E-03	5.1E-01	3.9E+00	1.0E-03	RAGSE	1.0E-03	RAGSE				
Perfluorobutane sulfonic acid (PFBS)	375-73-5	3.0E+02	PHYSPROP									1.8E+00	LookChem							6.2E+01	Guelfo and Higgins	5.7E+04	CHR Australia	5.7E+04	CHR Australia	5.0E+00	1.2E+01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Perfluorooctanesulfonate	45187-15-3	3.0E+02	EPA SRS									1.8E+00	LookChem							6.2E+01	Guelfo and Higgins	5.7E+04	CHR Australia	5.7E+04	CHR Australia	5.0E+00	1.2E+01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Permethrin	52645-53-1	3.9E+02	PHYSPROP	7.7E-05	1.9E-06	EPI	2.2E-08	PHYSPROP	3.4E+01	PHYSPROP	1.2E+00	CRC89	1.9E-02	4.7E-06	WATER (U.S. EPA 2001)	1.2E+05	EPI	6.5E+00	PHYSPROP	6.7E+03	PHYSPROP	1.6E+00	PHYSPROP	1.6E+00	1.5E+01	6.5E+01	2.1E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenacilin	52-64-2	1.8E+02	PHYSPROP	8.7E-09	2.1E-10	EPI	8.9E-07	PHYSPROP	6.1E+00	PHYSPROP	1.1E+00	CRC89	6.0E-02	7.0E-06	WATER (U.S. EPA 2001)	4.1E+01	EPI	1.6E+00	PHYSPROP	7.7E+02	PHYSPROP	8.0E+03	PHYSPROP	8.0E+03	1.5E+00	1.5E+00	1.3E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenemphed	13684-63-4	3.0E+02	PHYSPROP	3.4E-11	8.4E-13	EPI	1.0E-11	PHYSPROP	1.4E+02	PHYSPROP	1.2E+00	CRC89	4.2E-02	5.0E-06	WATER (U.S. EPA 2001)	2.6E+03	EPI	3.6E+00	PHYSPROP	4.7E+00	PHYSPROP	5.2E-02	PHYSPROP	5.2E-02	5.1E+00	1.2E+01	7.9E-03	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenol	108-95-2	9.4E+01	PHYSPROP	1.4E-05	4.6E-07	PHYSPROP	3.5E-01	PHYSPROP	4.1E+01	PHYSPROP	1.1E+00	CRC89	4.3E-02	1.0E-05	WATER (U.S. EPA 2001)	1.9E+02	EPI	1.5E+00	PHYSPROP	8.3E+04	PHYSPROP	1.6E-02	PHYSPROP	1.6E-02	3.5E-01	8.5E-01	4.3E-03	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1	2.1E+02	PHYSPROP	5.8E-08	1.4E-09	EPI	2.1E-05	PHYSPROP	9.0E+01	PHYSPROP	1.3E+00	CRC89	2.8E-02	6.6E-06	WATER (U.S. EPA 2001)	6.0E+01	EPI	1.5E+00	PHYSPROP	1.9E+03	PHYSPROP	6.0E-03	PHYSPROP	6.0E-03	1.6E+00	3.7E+00	1.1E-03	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenothiazine	92-84-2	2.0E+02	PHYSPROP	1.1E-06	2.8E-08	PHYSPROP	8.9E-07	PHYSPROP	1.9E+02	PHYSPROP	1.1E+00	PubChem	2.9E-02	7.5E-06	WATER (U.S. EPA 2001)	1.5E+03	EPI	4.2E+00	PHYSPROP	1.8E+00	PHYSPROP	3.7E-01	PHYSPROP	3.7E-01	1.4E+00	3.3E+00	6.8E-02	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenyl isothiocyanate	93-91-7	1.5E+02	PHYSPROP	1.2E-01	3.0E-03	EPI	1.5E+00	PHYSPROP	6.0E+01	PHYSPROP	1.1E+00	CRC89	2.2E+02	6.6E-06	WATER (U.S. EPA 2001)	3.3E+01	EPI	3.3E+00	PHYSPROP	9.0E+01	PHYSPROP	9.0E+01	PHYSPROP	9.0E+01	1.5E+00	1.5E+00	1.3E-01	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenylethylamine, n-	108-45-2	1.1E+02	PHYSPROP	5.1E-08	1.3E-09	EPI	2.1E-03	EPI	6.4E+01	PHYSPROP	1.0E+00	CRC89	7.2E-02	9.2E-06	WATER (U.S. EPA 2001)	3.4E+01	EPI	-3.3E-01	PHYSPROP	2.4E+05	PHYSPROP	9.4E-04	PHYSPROP	9.4E-04	4.2E-01	1.0E+00	2.3E-04	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenylethylamine, o-	95-54-5	1.1E+02	PHYSPROP	2.9E-07	7.2E-09	EPI	2.1E-03	EPI	1.0E+02	PHYSPROP	1.3E+00	CRC89	8.4E-02	9.8E-06	WATER (U.S. EPA 2001)	3.4E+01	EPI	1.5E-01	PHYSPROP	4.0E+04	PHYSPROP	1.0E-03	PHYSPROP	1.0E-03	4.2E-01	1.0E+00	4.9E-04	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenylethylamine, p-	106-50-3	1.1E+02	PHYSPROP	2.8E-08	6.7E-10	PHYSPROP	5.0E-03	PHYSPROP	1.5E+02	PHYSPROP	1.2E+00	CRC89	8.4E-02	9.8E-06	WATER (U.S. EPA 2001)	3.4E+01	EPI	-3.0E-01	PHYSPROP	3.7E+04	PHYSPROP	9.8E-04	PHYSPROP	9.8E-04	4.2E-01	1.0E+00	2.5E-04	EPI	1.1E+01	1.4E+00	3.5E+00	4.0E-02	EPI	
Phenylphenol, 2-	87-96-5	1.5E+02	PHYSPROP	4.3E-05	1.1E-05	EPI	1.5E-05	PHYSPROP	6.0E+01	PHYSPROP	1.2E+00	CRC89	4.3E-02	7.8E-0																				

Contaminant		Molecular Weight		Volatility Parameters			Melting Point		Density		Diffusivity in Air and Water			Partition Coefficients				Water Solubility		Tapwater Dermal Parameters													
Analyte	CAS No.	MW	MW Ref	H ¹ (unitless)	HLC (atm-m ³ /mole)	H and HLC Ref	VP (mmHg)	VP Ref	MP (°C)	MP Ref	Density (g/cm ³)	Density Ref	Dia (cm ² /s)	Dw (cm ² /s)	D ₁₀ and D ₅₀ Ref	K _d (L/kg)	K _{oc} Ref	K _{oc} (L/kg)	K _{oc} Ref	log K _{ow} (unitless)	log K _{ow} Ref	S (g/L)	S Ref	B (unitless)	T _{event} (hr/event)	t ^h (hr)	C _p (µg/cm ²)	K _f Ref					
Polychlorinated Biphenyls (high risk)	1336-36-3	2.9E+02	PHYSPROP	1.7E-02	4.2E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	2.4E-02	6.3E-06	WATER (U.S. EPA 2001)	7.8E+04	EPI	7.1E+00	PHYSPROP	7.0E-01	PHYSPROP	7.0E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI					
Polychlorinated Biphenyls (low risk)	1336-36-3	2.9E+02	PHYSPROP	1.7E-02	4.2E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	2.4E-02	6.3E-06	WATER (U.S. EPA 2001)	7.8E+04	EPI	7.1E+00	PHYSPROP	7.0E-01	PHYSPROP	7.0E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI					
Polychlorinated Biphenyls (lowest risk)	1336-36-3	2.9E+02	PHYSPROP	1.7E-02	4.2E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	2.4E-02	6.3E-06	WATER (U.S. EPA 2001)	7.8E+04	EPI	7.1E+00	PHYSPROP	7.0E-01	PHYSPROP	7.0E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI					
Tetrachlorobiphenyl, 3,3',4,4'-(PCB 77)	32598-13-3	2.9E+02	PHYSPROP	3.8E-04	9.2E-06	PHYSPROP	1.6E-05	PHYSPROP	1.8E+02	CRCS9	1.4E+00	LookChem	4.9E-02	5.0E-06	WATER (U.S. EPA 2001)	7.8E+04	EPI	6.6E+00	PHYSPROP	5.7E-04	PHYSPROP	5.7E-04	PHYSPROP	6.0E+00	4.5E+00	2.0E+01	9.2E-01	EPI					
Tetrachlorobiphenyl, 3,3',4,4'-(PCB 81)	70362-50-1	2.9E+02	EPI	9.1E-03	2.4E-04	EPI	8.5E-06	EPI	1.2E+02	EPI	1.4E+00	LookChem	4.9E-02	6.3E-06	WATER (U.S. EPA 2001)	7.8E+04	EPI	6.6E+00	EPI	3.2E-02	EPI	3.2E-02	EPI	3.8E+00	4.5E+00	2.0E+01	5.8E-01	EPI					
Polymeric Methacrylate Diphenyl Diisocyanate (PMDI)	8016-87-9	5.1E+02	EPI	5.4E-10	1.3E-11	EPI	5.4E-13	EPI	2.5E+02	EPI			3.0E-02	3.5E-06	WATER (U.S. EPA 2001)	1.0E+10	EPI	1.0E+01	EPI	1.8E-06	EPI	1.8E-06	EPI	1.6E+02	7.8E+01	3.7E+02	1.9E+01	EPI					
Polynuclear Aromatic Hydrocarbons (PAHs)																																	
-Acenaphthene	833-32-9	1.5E+02	PHYSPROP	7.5E-03	1.8E-04	PHYSPROP	2.2E-03	PHYSPROP	9.3E+01	PHYSPROP	1.2E+00	CRCS9	5.1E-02	8.3E-06	WATER (U.S. EPA 2001)	5.0E+03	EPI	3.9E+00	PHYSPROP	3.9E+00	PHYSPROP	3.9E+00	PHYSPROP	4.1E-01	7.7E-01	1.8E+00	8.6E-02	EPI					
-Anthracene	120-12-7	1.8E+02	PHYSPROP	2.3E-03	5.6E-05	PHYSPROP	6.5E-06	EPI	2.2E+02	PHYSPROP	1.3E+00	PubChem	3.9E-02	7.9E-06	WATER (U.S. EPA 2001)	1.6E+04	EPI	4.5E+00	PHYSPROP	4.3E-02	PHYSPROP	4.3E-02	PHYSPROP	7.3E-01	1.0E+00	4.1E+00	1.4E-01	EPI					
-Benz[a]anthracene	56-55-3	2.3E+02	PHYSPROP	4.9E-04	1.2E-05	PHYSPROP	2.1E-07	PHYSPROP	8.4E+01	PHYSPROP	1.3E+00	PubChem	2.6E-02	6.7E-06	WATER (U.S. EPA 2001)	1.8E+05	EPI	5.8E+00	PHYSPROP	4.9E-03	PHYSPROP	4.9E-03	PHYSPROP	3.2E+00	2.0E+00	8.5E+00	5.4E-01	EPI					
-Benzo[b]fluoranthene	205-92-3	2.5E+02	PHYSPROP	8.7E-06	2.0E-07	PHYSPROP	2.6E-08	PHYSPROP	1.7E+02	PHYSPROP	1.3E+00	CRCS9	4.8E-02	5.6E-06	WATER (U.S. EPA 2001)	6.0E+05	EPI	6.1E+00	PHYSPROP	2.5E-03	PHYSPROP	2.5E-03	PHYSPROP	4.2E+00	2.7E+00	1.2E+01	6.9E-01	EPI					
-Benzo[k]fluoranthene	205-92-3	2.5E+02	PHYSPROP	1.9E-05	4.6E-07	PHYSPROP	1.9E-08	PHYSPROP	1.7E+02	PHYSPROP	1.3E+00	CRCS9	4.8E-02	5.6E-06	WATER (U.S. EPA 2001)	6.0E+05	EPI	6.1E+00	PHYSPROP	2.5E-03	PHYSPROP	2.5E-03	PHYSPROP	4.2E+00	2.7E+00	1.2E+01	6.9E-01	EPI					
-Benzo[e]fluoranthene	207-08-9	2.5E+02	PHYSPROP	2.4E-05	5.8E-07	PHYSPROP	9.7E-10	EPI	2.2E+02	PHYSPROP	1.3E+00	CRCS9	4.8E-02	5.6E-06	WATER (U.S. EPA 2001)	6.0E+05	EPI	6.1E+00	PHYSPROP	2.5E-03	PHYSPROP	2.5E-03	PHYSPROP	4.2E+00	2.7E+00	1.2E+01	6.9E-01	EPI					
-Chloroanthracene, Beta-	91-59-7	1.8E+02	PHYSPROP	1.3E-02	3.2E-04	PHYSPROP	1.2E-02	EPI	6.1E+01	PHYSPROP	1.1E+00	CRCS9	4.5E-02	6.7E-06	WATER (U.S. EPA 2001)	2.5E+03	EPI	3.9E+00	PHYSPROP	2.8E-03	PHYSPROP	2.8E-03	PHYSPROP	3.7E-01	8.6E-01	2.1E+00	7.5E-02	EPI					
-Chrysene	218-01-9	2.3E+02	PHYSPROP	2.1E-04	5.2E-06	PHYSPROP	3.2E-09	PHYSPROP	2.0E+02	PHYSPROP	1.3E+00	CRCS9	2.9E-02	6.7E-06	WATER (U.S. EPA 2001)	1.8E+05	EPI	5.8E+00	PHYSPROP	2.0E-03	PHYSPROP	2.0E-03	PHYSPROP	3.5E+00	2.0E+00	8.5E+00	6.0E-01	EPI					
-Dibenz[a,h]anthracene	53-70-3	2.8E+02	PHYSPROP	5.8E-06	1.4E-07	EPI	9.6E-10	EPI	2.7E+02	PHYSPROP	1.5E+00	EPI	4.5E-02	6.2E-06	WATER (U.S. EPA 2001)	1.9E+06	EPI	6.8E+00	PHYSPROP	2.5E-03	PHYSPROP	2.5E-03	PHYSPROP	6.1E+00	3.8E+00	1.7E+01	9.5E-01	EPI					
-Dibenz[a,i]pyrene	192-65-4	3.0E+02	PHYSPROP	5.8E-07	1.4E-08	PHYSPROP	7.0E-11	PHYSPROP	2.3E+02	PHYSPROP	1.5E+00	EPI	4.2E-02	6.4E-06	WATER (U.S. EPA 2001)	6.5E+06	EPI	7.7E+00	EPI	8.0E-05	PHYSPROP	8.0E-05	PHYSPROP	2.8E+01	3.8E+00	2.4E+01	4.2E-01	EPI					
-Dimethylbenz[a]anthracene, 7,12-	57-97-6	2.6E+02	PHYSPROP	1.5E-04	3.8E-06	EPI	6.8E-07	PHYSPROP	1.2E+02	PHYSPROP	1.3E+00	CRCS9	4.7E-02	5.5E-06	WATER (U.S. EPA 2001)	4.9E+05	EPI	5.8E+00	PHYSPROP	6.1E-02	PHYSPROP	6.1E-02	PHYSPROP	2.5E+00	2.9E+00	1.2E+01	4.1E-01	EPI					
-Fluoranthene	206-44-0	2.0E+02	PHYSPROP	3.6E-04	8.9E-06	PHYSPROP	6.0E-04	PHYSPROP	1.1E+02	PHYSPROP	1.2E+00	CRCS9	2.9E-02	7.2E-06	WATER (U.S. EPA 2001)	5.5E+04	EPI	5.2E+00	PHYSPROP	2.6E-01	PHYSPROP	2.6E-01	PHYSPROP	1.7E+00	PHYSPROP	2.5E+00	1.4E+00	5.7E+00	3.1E-01	EPI			
-Fluorene	86-73-7	1.7E+02	PHYSPROP	3.9E-03	9.8E-05	PHYSPROP	8.0E-04	PHYSPROP	1.1E+02	PHYSPROP	1.2E+00	CRCS9	4.4E-02	7.9E-06	WATER (U.S. EPA 2001)	9.2E+03	EPI	4.2E+00	PHYSPROP	1.7E+00	PHYSPROP	1.7E+00	PHYSPROP	5.5E-01	9.0E-01	2.2E+00	1.1E-01	EPI					
-Indeno[1,2,3-cd]perylene	193-39-6	2.8E+02	PHYSPROP	1.3E-05	3.5E-07	PHYSPROP	1.3E-08	PHYSPROP	1.6E+02	PHYSPROP	1.3E+00	CRCS9	4.8E-02	6.2E-06	WATER (U.S. EPA 2001)	2.0E+06	EPI	6.7E+00	PHYSPROP	1.6E-04	PHYSPROP	1.6E-04	PHYSPROP	7.9E+00	6.7E+00	1.7E+01	1.2E+00	EPI					
-Methylanthracene, 1-	90-12-0	1.4E+02	PHYSPROP	2.1E-02	5.1E-04	PHYSPROP	6.7E-02	PHYSPROP	3.0E+01	PHYSPROP	1.0E+00	CRCS9	5.3E-02	7.8E-06	WATER (U.S. EPA 2001)	2.5E+03	EPI	3.9E+00	PHYSPROP	2.6E-01	PHYSPROP	2.6E-01	PHYSPROP	4.3E-01	6.6E-01	1.6E+00	9.3E-02	EPI					
-Methylanthracene, 2-	91-57-6	1.4E+02	PHYSPROP	2.1E-02	5.2E-04	PHYSPROP	6.7E-02	PHYSPROP	3.0E+01	PHYSPROP	1.0E+00	CRCS9	5.3E-02	7.8E-06	WATER (U.S. EPA 2001)	2.5E+03	EPI	3.9E+00	PHYSPROP	2.6E-01	PHYSPROP	2.6E-01	PHYSPROP	4.3E-01	6.6E-01	1.6E+00	9.3E-02	EPI					
-Naphthalene	91-20-3	1.3E+02	PHYSPROP	1.8E-02	4.4E-04	PHYSPROP	5.5E-02	PHYSPROP	3.0E+01	PHYSPROP	1.0E+00	CRCS9	6.0E-02	8.4E-06	WATER (U.S. EPA 2001)	1.5E+03	EPI	4.3E+00	PHYSPROP	3.1E+01	PHYSPROP	3.1E+01	PHYSPROP	2.0E-01	5.5E-01	1.3E+00	4.7E-02	EPI					
-Nitroperene, 4-	57835-92-4	2.5E+02	PHYSPROP	1.0E-06	2.5E-08	PHYSPROP	8.5E-08	PHYSPROP	1.9E+02	PHYSPROP	1.3E+00	CRCS9	4.8E-02	5.6E-06	WATER (U.S. EPA 2001)	8.6E+04	EPI	3.8E+00	PHYSPROP	6.8E-02	PHYSPROP	6.8E-02	PHYSPROP	5.6E-01	2.6E+00	6.3E+00	9.2E-02	EPI					
-Pyrene	2129-00-0	2.0E+02	PHYSPROP	4.9E-04	1.2E-05	PHYSPROP	4.2E-06	PHYSPROP	1.5E+02	PHYSPROP	1.3E+00	CRCS9	2.8E-02	7.2E-06	WATER (U.S. EPA 2001)	5.4E+04	EPI	4.9E+00	PHYSPROP	1.4E+01	PHYSPROP	1.4E+01	PHYSPROP	1.1E+00	1.4E+00	5.5E+00	2.0E-01	EPI					
Potassium Perfluorobutane Sulfonate	29420-49-3	3.4E+02	EPI	3.6E-11	8.8E-13	CHR Australia	9.2E-08	CHR Australia	2.7E+02	CHR Australia			3.9E-02	4.6E-06	WATER (U.S. EPA 2001)	2.4E+03	EPI	4.1E+00	PHYSPROP	4.8E-04	CHR Australia	4.8E-04	CHR Australia	1.7E+00	1.4E+00	5.7E+00	6.4E-03	EPI					
Prochloraz	67147-00-8	2.5E+02	PHYSPROP	6.7E-07	1.6E-08	EPI	6.1E-06	PHYSPROP	1.1E+02	PHYSPROP	1.2E+00	CRCS9	2.9E-02	6.2E-06	WATER (U.S. EPA 2001)	4.5E+03	EPI	5.2E+00	PHYSPROP	2.6E-01	PHYSPROP	2.6E-01	PHYSPROP	4.3E-01	6.6E-01	1.6E+00	9.3E-02	EPI					
Propflurin	26399-36-0	3.5E+02	PHYSPROP	1.2E-02	2.9E-04	EPI	6.3E-05	PHYSPROP	3.2E+01	PHYSPROP	1.4E+00	HSDB	2.2E-02	5.5E-06	WATER (U.S. EPA 2001)	3.1E+04	EPI	5.6E+00	PHYSPROP	1.0E-01	PHYSPROP	1.0E-01	PHYSPROP	6.5E-01	9.3E+00	3.7E+01	9.0E-02	EPI					
Prometon	1610-18-0	2.3E+02	PHYSPROP	3.7E-08	9.1E-10	EPI	2.3E-06	PHYSPROP	9.1E+01	PHYSPROP	1.3E+00	CRCS9	5.1E-02	6.0E-06	WATER (U.S. EPA 2001)	1.4E+02	EPI	3.0E+00	PHYSPROP	7.0E-01	PHYSPROP	7.0E-01	PHYSPROP	4.8E-02	1.9E+00	4.6E+00	8.0E-03	EPI					
Prometryn	7287-18-6	2.4E+02	PHYSPROP	4.9E-07	1.2E-08	EPI	1.2E-06	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	CRCS9	2.4E-02	6.2E-06	WATER (U.S. EPA 2001)	6.6E+02	EPI	3.5E+00	PHYSPROP	3.3E+01	PHYSPROP	3.3E+01	PHYSPROP	8.9E-02	2.4E+00	5.7E+00	1.5E-02	EPI					
Propoxur	2352-45-6	2.5E+02	PHYSPROP	1.5E-05	3.6E-07	PHYSPROP	2.3E-04	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	CRCS9	2.9E-02	6.2E-06	WATER (U.S. EPA 2001)	2.0E+02	EPI	2.2E+00	PHYSPROP	1.5E+02	PHYSPROP	1.5E+02	PHYSPROP	5.9E-02	2.2E+00	4.3E+00	1.4E-02	EPI					
Propranolol	709-98-8	2.7E+02	PHYSPROP	7.0E-08	1.7E-09	EPI	9.1E-07	PHYSPROP	9.2E+01	PHYSPROP	1.3E+00	CRCS9	2.7E-02	6.9E-06	WATER (U.S. EPA 2001)	1.8E+02	EPI	3.1E+00	PHYSPROP	1.5E+02	PHYSPROP	1.5E+02	PHYSPROP										

Contaminant	Molecular Weight		Volatility Parameters				Melting Point		Density		Diffusivity in Air and Water			Partition Coefficients				Water Solubility		Tapwater Dermal Parameters																	
	Analyte	CAS No.	MW	MW Ref	H' (unitless)	HLC (atm-m ³ /mole)	H' and HLC Ref	VP (mmHg)	VP Ref	MP (C)	MP Ref	Density (g/cm ³)	Density Ref	Dia (cm ² /s)	Dw (cm ² /s)	D ₁₀ and D ₅₀ Ref	K _d (L/kg)	K _{oc} Ref	K _{oc} (L/kg)	K _{oc} Ref	log K _{ow} (unitless)	log K _{ow} Ref	S (mg/L)	S Ref	B (unitless)	T _{event} (hr/event)	t _r (hr)	K _p (cm ² /hr)	K _a Ref								
Trifluoromethyl	79277-27-3	3.9E+02	PHYSPROP	1.7E-12	4.1E-14	PHYSPROP	1.3E-10	PHYSPROP	1.8E+02	PHYSPROP	1.3E+00	CR89	3.8E-02	4.2E-06	WATER (U.S. EPA 2001)	5.1E+01	EPI	1.6E+00	PHYSPROP	2.2E+03	PHYSPROP	6.8E-04	1.6E+01	3.7E+01	1.1E-04	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Thiobencarb	28249-77-6	2.6E+02	PHYSPROP	1.1E-05	2.7E-07	EPI	2.2E-05	PHYSPROP	3.3E+00	PHYSPROP	1.2E+00	CR89	2.3E-02	5.9E-08	WATER (U.S. EPA 2001)	1.6E+03	EPI	3.4E+00	PHYSPROP	2.2E+03	PHYSPROP	6.3E-02	2.9E+00	7.0E+00	1.0E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Thiodiglycol	11130-87-1	1.3E+02	PHYSPROP	1.1E-05	1.9E-09	PHYSPROP	3.2E-03	PHYSPROP	1.6E+01	PHYSPROP	1.2E+00	CR89	6.3E-02	9.4E-08	WATER (U.S. EPA 2001)	4.3E+01	EPI	8.3E-01	PHYSPROP	2.2E+03	PHYSPROP	5.3E-01	1.2E+00	2.9E+00	1.0E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Thioflanz	30918-16-4	2.2E+02	PHYSPROP	3.8E-07	9.4E-09	EPI	1.7E-04	PHYSPROP	5.7E+01	PHYSPROP	1.2E+00	CR89	5.2E-02	6.1E-08	WATER (U.S. EPA 2001)	7.2E+01	EPI	2.2E+00	PHYSPROP	5.2E+03	PHYSPROP	3.6E-02	1.8E+00	4.2E+00	6.8E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Thiophanate Methyl	23564-05-8	3.4E+02	PHYSPROP	3.9E-02	1.2E-09	EPI	3.9E-02	PHYSPROP	1.7E+02	EPI	1.3E+00	CR89	3.9E-02	4.5E-06	WATER (U.S. EPA 2001)	1.4E+00	EPI	1.4E+00	PHYSPROP	2.7E+01	PHYSPROP	1.1E-03	8.7E+00	2.1E+01	1.6E-04	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Thiram	137-26-8	2.4E+02	PHYSPROP	7.4E-06	1.8E-07	EPI	1.7E-05	PHYSPROP	1.6E+02	PHYSPROP	1.3E+00	PERRY	3.8E-02	6.6E-06	WATER (U.S. EPA 2001)	6.1E+02	EPI	1.7E+00	PHYSPROP	3.0E+01	PHYSPROP	5.9E-03	2.3E+00	5.6E+00	9.9E-04	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Tin	7440-31-5	1.2E+02	CR89	0.0E+00	NOSH	3.4E+03	0.0E+00	NOSH	1.3E+01	CR89	7.3E+00	CR89	2.9E-02	9.1E-06	WATER (U.S. EPA 2001)	2.5E+02	BAES	1.3E+00	PHYSPROP	4.2E+03	PHYSPROP	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE						
Titanium Tetrachloride	7654-40-3	1.9E+02	CR89	1.6E+01	ATSDR Profile	0.9E+01	1.6E+01	ATSDR Profile	2.4E+01	CR89	1.7E+00	CR89	3.9E-02	9.1E-06	WATER (U.S. EPA 2001)	2.5E+02	BAES	1.3E+00	PHYSPROP	4.2E+03	PHYSPROP	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE						
Toluene	108-88-3	9.2E+01	PHYSPROP	2.7E-01	6.8E-03	PHYSPROP	2.8E+01	PHYSPROP	9.5E+01	PHYSPROP	8.6E-01	CR89	7.8E-02	9.2E-06	WATER (U.S. EPA 2001)	2.3E+02	EPI	2.7E+00	PHYSPROP	5.3E+02	PHYSPROP	1.1E-01	3.5E-01	8.3E-01	3.1E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toluene-2,4-diisocyanate	584-84-9	1.7E+02	EPI	4.5E-04	1.1E-05	EPI	8.0E-03	EPI	2.1E+01	EPI	1.2E+00	CR89	4.0E-02	7.8E-06	WATER (U.S. EPA 2001)	7.4E+03	EPI	3.7E+00	EPI	2.8E+00	EPI	2.6E+00	9.5E-01	4.1E+00	5.1E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toluene-2,6-diamine	95-70-5	1.2E+02	PHYSPROP	3.0E-07	7.4E-09	PHYSPROP	3.4E-03	PHYSPROP	6.4E+01	PHYSPROP	1.2E+00	CR89	7.7E-02	9.0E-08	WATER (U.S. EPA 2001)	5.5E+01	EPI	1.6E-01	PHYSPROP	7.7E+04	PHYSPROP	1.7E-03	5.1E-01	1.2E+00	4.1E-04	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toluene-2,6-diolisocyanate	108-88-3	1.7E+02	EPI	4.5E-04	1.1E-05	EPI	8.0E-03	EPI	2.1E+01	EPI	1.2E+00	CR89	4.0E-02	7.8E-06	WATER (U.S. EPA 2001)	7.4E+03	EPI	3.7E+00	EPI	2.8E+00	EPI	2.6E+00	9.5E-01	4.1E+00	5.1E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toluic Acid	99-64-5	1.4E+02	EPI	1.2E-05	2.8E-07	YAWS	5.1E-05	EPI	1.9E+02	EPI	1.2E+00	PRRTV	6.1E-02	9.0E-06	WATER (U.S. EPA 2001)	2.7E+01	PRRTV	2.3E+00	EPI	3.4E+02	EPI	3.9E-02	6.1E-01	1.5E+00	4.7E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toulidine, o- (Methylaniline, 2-)	95-53-4	1.1E+02	PHYSPROP	8.1E-05	2.0E-06	PHYSPROP	2.6E-01	PHYSPROP	1.4E+01	PHYSPROP	1.0E+00	CR89	7.2E-02	9.2E-06	WATER (U.S. EPA 2001)	1.2E+02	EPI	1.3E+00	PHYSPROP	1.6E+04	PHYSPROP	1.2E-02	4.2E-01	1.0E+00	3.0E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toulidine, p-	106-49-0	1.1E+02	PHYSPROP	8.3E-05	2.0E-06	PHYSPROP	2.9E-01	PHYSPROP	1.4E+01	PHYSPROP	9.9E-01	CR89	7.1E-02	9.2E-06	WATER (U.S. EPA 2001)	1.1E+02	EPI	1.4E+00	PHYSPROP	1.6E+04	PHYSPROP	1.3E-02	4.2E-01	1.0E+00	3.0E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Total Petroleum Hydrocarbons (Aliphatic High)	E179070	1.7E+02	EPI	3.5E+02	8.2E+00	EPI	1.4E-01	EPI	3.9E+00	EPI	3.9E-01	ChemNet	3.9E-02	9.4E-06	WATER (U.S. EPA 2001)	4.9E+03	EPI	6.1E+00	EPI	3.7E-03	EPI	9.8E+00	3.5E-01	4.3E+00	2.9E+00	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Total Petroleum Hydrocarbons (Aliphatic Low)	E179066	8.6E+01	SURROGATE	7.4E+01	1.8E+00	EPI	1.5E+02	SURROGATE	9.5E+01	SURROGATE	6.6E-01	CR89	7.3E-02	8.2E-06	WATER (U.S. EPA 2001)	1.3E+02	EPI	3.9E+00	SURROGATE	8.5E-01	SURROGATE	7.2E-01	3.2E-01	1.2E+00	2.0E-01	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Total Petroleum Hydrocarbons (Aliphatic Medium)	E179068	1.3E+02	SURROGATE	1.4E+02	3.4E+00	EPI	4.5E+00	SURROGATE	9.5E+01	SURROGATE	7.2E-01	CR89	5.1E-02	8.8E-06	WATER (U.S. EPA 2001)	1.0E+02	EPI	5.7E+00	SURROGATE	2.5E-01	SURROGATE	7.4E+00	5.5E-01	2.5E+00	1.7E+00	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Total Petroleum Hydrocarbons (Aromatic High)	E179076	2.0E+02	SURROGATE	3.6E-04	8.9E-06	SURROGATE	9.2E-02	SURROGATE	1.1E+02	SURROGATE	1.3E+00	CR89	2.8E-02	7.2E-06	WATER (U.S. EPA 2001)	5.5E+04	EPI	5.2E+00	SURROGATE	2.6E-01	SURROGATE	1.7E+00	1.4E+00	5.7E+00	3.1E-01	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Total Petroleum Hydrocarbons (Aromatic Low)	E179072	7.9E+01	SURROGATE	2.3E-01	5.9E-03	SURROGATE	9.5E+01	SURROGATE	6.5E+00	SURROGATE	8.9E-01	CR89	9.1E-02	9.5E-06	WATER (U.S. EPA 2001)	1.5E+02	EPI	2.1E+00	SURROGATE	1.8E+03	SURROGATE	5.1E-02	2.9E-01	6.9E-01	1.5E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Total Petroleum Hydrocarbons (Aromatic Medium)	E179074	1.4E+02	SURROGATE	2.0E-02	4.8E-04	SURROGATE	7.0E-02	SURROGATE	5.7E+01	SURROGATE	1.0E+00	CR89	5.8E-02	8.1E-06	WATER (U.S. EPA 2001)	2.5E+03	EPI	3.6E+00	SURROGATE	2.8E+01	SURROGATE	3.1E-01	6.0E-01	1.4E+00	6.9E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Toxaphene	8001-35-2	4.5E+02	PHYSPROP	2.5E-04	6.0E-06	PHYSPROP	6.7E-06	PHYSPROP	7.7E+01	PHYSPROP	1.3E+00	CR89	3.2E-02	3.8E-06	WATER (U.S. EPA 2001)	7.7E+04	EPI	5.9E+00	PHYSPROP	5.5E-01	PHYSPROP	4.2E-01	3.4E+01	8.2E+01	5.2E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Tralometrin	68841-25-6	6.7E+02	PHYSPROP	1.6E-08	3.9E-10	EPI	3.6E-11	PHYSPROP	1.4E+02	PHYSPROP	EPI	1.1E+00	CR89	2.9E-02	2.9E-08	WATER (U.S. EPA 2001)	1.9E+05	EPI	7.6E+00	PHYSPROP	8.0E-02	PHYSPROP	3.0E-01	5.6E+02	1.3E+03	3.1E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE
Tri-n-butyltin	10120-80-0	2.9E+02	PHYSPROP	6.2E-01	1.5E+00	PHYSPROP	1.6E+01	PHYSPROP	3.9E+01	PHYSPROP	1.1E+00	CR89	8.1E-03	7.1E-06	WATER (U.S. EPA 2001)	3.6E+01	EPI	4.1E+00	PHYSPROP	7.3E-03	PHYSPROP	1.5E-01	4.2E+00	4.3E+00	3.7E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Triacetin	102-76-1	2.2E+02	PHYSPROP	5.0E-07	1.2E-08	EPI	2.5E-03	PHYSPROP	7.8E+01	PHYSPROP	1.2E+00	CR89	2.6E-02	6.6E-06	WATER (U.S. EPA 2001)	4.1E+01	EPI	2.5E-01	PHYSPROP	5.8E+04	PHYSPROP	7.8E-04	1.8E+00	4.2E+00	1.4E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Triadimfon	43121-43-3	2.9E+02	PHYSPROP	3.9E-09	8.1E-11	EPI	1.5E-08	PHYSPROP	8.2E+01	PHYSPROP	1.2E+00	CR89	2.2E-02	5.7E-06	WATER (U.S. EPA 2001)	3.0E+02	EPI	2.8E+00	PHYSPROP	7.2E+01	PHYSPROP	1.6E-02	4.6E+00	1.1E+01	2.4E-03	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE	
Triallate	23031-17-5	3.0E+02	PHYSPROP	4.9E-04	1.2E-05	EPI	1.2E-04	PHYSPROP	2.9E+01	PHYSPROP	1.3E+00	CR89	3.2E-02	6.7E-06	WATER (U.S. EPA 2001)	1.0E+03	EPI	4.6E+00	PHYSPROP	4.0E+00	PHYSPROP	2.3E-01	5.3E+00	1.3E+01	3.5E-02	EPI	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE	5.3E-03	1.2E+00				

PERIODIC TABLE OF THE ELEMENTS

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PERIOD	GROUP NUMBERS IUPAC RECOMMENDATION (1985)																GROUP NUMBERS CHEMICAL ABSTRACT SERVICE (1986)									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	13	14	15	16	17	18		
1	1 H HYDROGEN																	2 He HELIUM								
2	3 Li LITHIUM	4 Be BERYLLIUM																	5 B BORON	6 C CARBON	7 N NITROGEN	8 O OXYGEN	9 F FLUORINE	10 Ne NEON		
3	11 Na SODIUM	12 Mg MAGNESIUM																	13 Al ALUMINIUM	14 Si SILICON	15 P PHOSPHORUS	16 S SULPHUR	17 Cl CHLORINE	18 Ar ARGON		
4	19 K POTASSIUM	20 Ca CALCIUM	21 Sc SCANDIUM	22 Ti TITANIUM	23 V VANADIUM	24 Cr CHROMIUM	25 Mn MANGANESE	26 Fe IRON	27 Co COBALT	28 Ni NICKEL	29 Cu COPPER	30 Zn ZINC	31 Ga GALLIUM	32 Ge GERMANIUM	33 As ARSENIC	34 Se SELENIUM	35 Br BROMINE	36 Kr KRYPTON								
5	37 Rb RUBIDIUM	38 Sr STRONTIUM	39 Y YTTRIUM	40 Zr ZIRCONIUM	41 Nb NIOBIUM	42 Mo MOLYBDENUM	43 Tc TECHNETIUM	44 Ru RUTHENIUM	45 Rh RHODIUM	46 Pd PALLADIUM	47 Ag SILVER	48 Cd CADMIUM	49 In INDIUM	50 Sn TIN	51 Sb ANTIMONY	52 Te TELLURIUM	53 I IODINE	54 Xe XENON								
6	55 Cs CAESIUM	56 Ba BARIUM	57-71 La-Lu Lanthanide	72 Hf HAFNIUM	73 Ta TANTALUM	74 W TUNGSTEN	75 Re RHENIUM	76 Os OSMIUM	77 Ir IRIDIUM	78 Pt PLATINUM	79 Au GOLD	80 Hg MERCURY	81 Tl THALLIUM	82 Pb LEAD	83 Bi BISMUTH	84 Po POLONIUM	85 At ASTATINE	86 Rn RADON								
7	87 (223) Fr FRANCIUM	88 (226) Ra RADIUM	89-103 Ac-Lr Actinide	104 (267) Rf RUTHERFORDIUM	105 (268) Db DUBNIUM	106 (271) Sg SEABORGIUM	107 (272) Bh BOHRIUM	108 (277) Hs HASSIUM	109 (276) Mt MEITNERIUM	110 (281) Ds DARMSTADIUM	111 (280) Rg ROENTGENIUM	112 (285) Cn COPERNICIUM	113 (...) Uut UNUNTRIUM	114 (287) Fl FLEROVIUM	115 (...) Uup UNUNPENTIUM	116 (291) Lv LIVERMORIUM	117 (...) Uus UNUNSEPTIUM	118 (...) Uuo UNUNOCTIUM								

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LANTHANIDE

57 138.91 La LANTHANUM	58 140.12 Ce CERIUM	59 140.91 Pr PRASEODYMIUM	60 144.24 Nd NEODYMIUM	61 (145) Pm PROMETHIUM	62 150.36 Sm SAMARIUM	63 151.96 Eu EUROPIUM	64 157.25 Gd GADOLINIUM	65 158.93 Tb TERBIUM	66 162.50 Dy DYSPROSIUM	67 164.93 Ho HOLMIUM	68 167.26 Er ERBIUM	69 168.93 Tm THULIUM	70 173.05 Yb YTTERBIUM	71 174.97 Lu LUTETIUM
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ACTINIDE

89 (227) Ac ACTINIUM	90 232.04 Th THORIUM	91 231.04 Pa PROTACTINIUM	92 238.03 U URANIUM	93 (237) Np NEPTUNIUM	94 (244) Pu PLUTONIUM	95 (243) Am AMERICIUM	96 (247) Cm CURIUM	97 (247) Bk BERKELIUM	98 (251) Cf CALIFORNIUM	99 (252) Es EINSTEINIUM	100 (257) Fm FERMIUM	101 (258) Md MENDELEVIUM	102 (259) No NOBELIUM	103 (262) Lr LAWRENCIUM
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(1) Pure Appl. Chem., 81, No. 11, 2131-2156 (2009)

Relative atomic masses are expressed with five significant figures. For elements that have no stable nuclides, the value enclosed in brackets indicates the mass number of the longest-lived isotope of the element. However three such elements (Th, Pa and U) do have a characteristic terrestrial isotopic composition, and for these an atomic weight is tabulated.