

Potable Ground Water Cleanup Levels WAC 173-340-720

Equations and Default Values for calculating Concentrations Protective of Human Health

Ingestion and Inhalation Pathways

Noncarcinogens: Equation 720-1

$$\text{Potable Ground Water Cleanup Level (ug / l)} = \frac{RfD_o \times ABW \times UCF \times HQ \times AT}{DWIR \times INH \times DWF \times ED}$$

Parameter	Default Value		Units	
	Method B	Method C		
Risk				
• Hazard Quotient	HQ	1	1	unitless
Toxicological Parameters				
• Oral Reference Dose	RfD _o	chemical-specific	chemical-specific	mg/kg-day
• Inhalation Correction Factor	INH	chemical-specific	chemical-specific	unitless
Exposure Parameters				
• Average Body Weight	ABW	16	70	kg
• Averaging Time	AT	6	6	years
• Exposure Duration	ED	6	6	years
• Drinking Water Ingestion Rate	DWIR	1	2	liters/day
• Drinking Water Fraction	DWF	1	1	unitless
Unit Conversion Factors				
• Unit Conversion Factor	UCF	1,000	1,000	µg/mg

NOTE: Default values highlighted in green differ for Method B and Method C.

Carcinogens: Equation 720-2

$$\text{Potable Ground Water Cleanup Level (ug / l)} = \frac{RISK \times ABW \times AT \times UCF}{CPF_o \times DWIR \times ED \times INH \times DWF}$$

Parameter	Default Value		Units	
	Method B	Method C		
Risk				
• Carcinogenic Risk	RISK	1 x 10 ⁻⁶	1 x 10 ⁻⁵	unitless
Toxicological Parameters				
• Oral Cancer Potency Factor	CPF _o	chemical-specific	chemical-specific	kg-day/mg
• Inhalation Correction Factor	INH	chemical-specific	chemical-specific	unitless
Exposure Parameters				
• Average Body Weight	ABW	70	70	kg
• Averaging Time	AT	75	75	years
• Exposure Duration	ED	30	30	years
• Drinking Water Ingestion Rate	DWIR	2	2	liters/day
• Drinking Water Fraction	DWF	1	1	unitless
Unit Conversion Factors				
• Unit Conversion Factor	UCF	1,000	1,000	µg/mg

NOTE: Default values highlighted in green differ for Method B and Method C.

Potable Ground Water Cleanup Levels

Summary of Default Values for calculating Concentrations Protective of Human Health

Parameter		Default Value				Modifiable?	
		Method B		Method C		Cleanup Level	Remediation Level
		Noncarcinogen	Carcinogen	Noncarcinogen	Carcinogen		
Risk – Noncarcinogens							
Hazard Quotient	HQ	1 (unitless)	—	1 (unitless)	—		
Hazard Index (Total)	HI	1 (unitless)	—	1 (unitless)	—		
Risk – Carcinogens							
Single Substance	RISK	—	1 x 10 ⁻⁶ (unitless)	—	1 x 10 ⁻⁵ (unitless)		
Total Site Risk	—	—	1 x 10 ⁻⁵ (unitless)	—	1 x 10 ⁻⁵ (unitless)		
Toxicological Parameters							
Oral Reference Dose	RfD _o	Chemical-specific	—	Chemical-specific	—	x	x
Oral Cancer Potency Factor	CPF _o	—	Chemical-specific	—	Chemical-specific	x	x
Inhalation Correction Factor	INH	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	x	x
Exposure Parameters							
Average Body Weight	ABW	16 kg	70 kg	70 kg	70 kg		x
Exposure Duration	ED	6 years	30 years	6 years	30 years		x
Averaging Time	AT	6 years	75 years	6 years	75 years		x
Drinking Water Ingestion Rate	DWIR	1 liter/day	2 liters/day	2 liters/day	2 liters/day		x
Drinking Water Fraction	DWF	1 (unitless)	1 (unitless)	1 (unitless)	1 (unitless)		x
Unit Conversion Factors							
Unit Conversion Factor	UCF	1,000 µg/mg	1,000 µg/mg	1,000 µg/mg	1,000 µg/mg		

NOTE: Default values highlighted in green differ for Method B and Method C.