

Table 5-10I

Calculation of Non Cancer Hazards

Ingestion of Mussels

Resident - CT

Scenario Timeframe:	Future
Medium:	Sediment
Exposure Medium:	Mussels
Receptor Population:	Resident
Receptor Age:	Child/Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Relative Absorption Factor	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Hazard Quotient
Ingestion (1)	ALUMINUM	1.07E+02	mg/kg	1	3.17E-02	mg/kg-day	1.00E+00	(mg/kg-d)	3.17E-02
	ARSENIC	1.22E+00	mg/kg	1	3.61E-04	mg/kg-day	3.00E-04	(mg/kg-d)	1.20E+00
	CADMIUM	2.60E-01	mg/kg	1	7.70E-05	mg/kg-day	1.00E-03	(mg/kg-d)	7.70E-02
	IRON	1.54E+02	mg/kg	1	4.56E-02	mg/kg-day	3.00E-01	(mg/kg-d)	1.52E-01
	LEAD	2.90E-01	mg/kg	1	8.59E-05	mg/kg-day		(mg/kg-d)	
	MERCURY	5.00E-02	mg/kg	1	1.48E-05	mg/kg-day	3.00E-04	(mg/kg-d)	4.94E-02
	SODIUM	5.08E+03	mg/kg	1	1.50E+00	mg/kg-day		(mg/kg-d)	
	ALPHA-HEXACHLOROCYCLOHEXANE	3.90E-05	mg/kg	1	1.16E-08	mg/kg-day		(mg/kg-d)	
	BETA-HEXACHLOROCYCLOHEXANE	5.80E-05	mg/kg	1	1.72E-08	mg/kg-day		(mg/kg-d)	
	ENDOSULFAN II	1.40E-04	mg/kg	1	4.15E-08	mg/kg-day		(mg/kg-d)	
	ENDOSULFAN SULFATE	6.00E-05	mg/kg	1	1.78E-08	mg/kg-day		(mg/kg-d)	
	ENDRIN KETONE	4.90E-04	mg/kg	1	1.45E-07	mg/kg-day		(mg/kg-d)	
	2-METHYLNAPHTHALENE	2.50E-03	mg/kg	1	7.41E-07	mg/kg-day	9.00E-03	(mg/kg-d)	8.23E-05
	ACENAPHTHYLENE	3.30E-04	mg/kg	1	9.78E-08	mg/kg-day		(mg/kg-d)	
	BENZO(A)PYRENE equivalent	8.80E-03	mg/kg	1	2.61E-06	mg/kg-day		(mg/kg-d)	
	BENZO[G,H,I]PERYLENE	1.20E-03	mg/kg	1	3.56E-07	mg/kg-day		(mg/kg-d)	
	PHENANTHRENE	2.10E-03	mg/kg	1	6.22E-07	mg/kg-day		(mg/kg-d)	
Total Hazard Index									1.5E+00

(1) Intake Ingestion =
$$\frac{EPC * (IF_{adj} * CF_2 * RAF * EF)}{(AT * 365 \text{ day/yr})}$$

= EPC * 2.96E-04

IF _{adj} =	$(IR-C * ED-C * CF) / BW-C + (IR-A * ED-A * CF) / BW-A$	EPC, mg/kg	Exposure Point Concentration	chem-specific
=	2.67E+03	IF _{adj} , mg-yr/kg-day	Ingestion Rate, age adjusted	2.67E+03
		RAF, unitless	Relative Absorption Factor	1
		EF, day/yr	Exposure Frequency	365
		AT, yr	Averaging Time	9
		BW-A, kg	Body Weight, Adult	70
		ED-A, years	Exposure Duration, Adult	7
		BW-C, kg	Body Weight, Child	15
		ED-C, years	Exposure Duration, Child	2
		IR-A, kg/day	Ingestion Rate, Adult	0.016
		IR-C, kg/day	Ingestion Rate, Child	0.008
		CF, mg/kg	Conversion Factor	1.00E+06
		CF ₂ , kg/mg	Conversion Factor	1.00E-06

mg/kg = milligram/kilogram
mg/kg - day = milligram/kilogram - day
NA = Not Applicable
EPC = Exposure Point Concentration
CT - Central Tendency