

^{238}Pu



Commonly used or illustrative parameters

Generic parameters	Value
Radioactive half life [1]	87.7 Years
Origin [1]	Man made
Principal decay mode [1]	Alpha decay
Specific activity [2]	6.33×10^{11} Bq/g
Freshwater Kd [3]	2.4×10^5 L kg ⁻¹
Marine Kd [4]	1×10^5 L kg ⁻¹

Parameters useful for human assessments	Value
CR Pasture grass [3]	5.5×10^{-4}
CR Freshwater fish (muscle) [3]	2.1×10^4 L kg ⁻¹
CR Marine fish [4]	1×10^2 L kg ⁻¹
F _f Cow meat [3]	1.1×10^{-6} d kg ⁻¹
F _m Cow milk [3]	1.0×10^{-5} d L ⁻¹
Human fractional absorption (f ₁) [5]	0.0005
Inhalation dose coefficient [6]	1.6×10^{-5} Sv Bq ⁻¹
Ingestion dose coefficient [6]	2.3×10^{-7} Sv Bq ⁻¹
Biological half life for Human (adult) [7]	a: 40 yrs (0.45) Liver b: 100 yrs (0.45) skeleton
Biological half life for Cow milk	No data available
EU Food intervention limit- Dairy [8]	20 Bq L ⁻¹ or Bq kg ⁻¹
EU Food intervention limit- Baby food [8]	1 Bq L ⁻¹ or Bq kg ⁻¹
EU Food intervention limit- Liquid [8]	20 Bq L ⁻¹ or Bq kg ⁻¹
EU Food intervention limit- Other food [8]	80 Bq L ⁻¹ or Bq kg ⁻¹
EU Food intervention limit- Minor food [8]	800 Bq L ⁻¹ or Bq kg ⁻¹

Commonly used or illustrative parameters

Parameters useful for wildlife assessments	Value
Terrestrial EMCL — Soil [9]	$7.41 \times 10^2 \text{ Bq kg}^{-1}$
Freshwater EMCL — Water [9]	$1.59 \times 10^{-2} \text{ Bq L}^{-1}$
Freshwater EMCL — Sediment [9]	$6.13 \times 10^2 \text{ Bq kg}^{-1}$
Marine EMCL — Water [9]	$8.40 \times 10^{-4} \text{ Bq L}^{-1}$
Marine EMCL — Sediment [9]	$2.45 \times 10^1 \text{ Bq kg}^{-1}$
CR Terrestrial mammal (rat) [9]	1.40×10^{-2}
CR Freshwater fish [9]	8.30×10^2
CR Freshwater mollusc [9]	5.50×10^3
CR Marine fish [9]	1.40×10^3
CR Marine mollusc [9]	1.10×10^3
Internal DCC Terrestrial mammal (rat) on soil [9]	$3.20 \times 10^{-2} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Terrestrial mammal (rat) in soil [9]	$1.40 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ soil
External DCC Terrestrial mammal (rat) on soil [9]	$6.10 \times 10^{-8} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ soil
Internal DCC Marine fish (benthic) [9]	$3.20 \times 10^{-2} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Marine fish (benthic) in water [9]	$2.00 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ water
External DCC Marine fish (benthic) at sediment interface [9]	$1.00 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ sediment
Internal DCC Freshwater fish (pelagic) [9]	$3.20 \times 10^{-2} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Freshwater fish in water [9]	$1.50 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ water

All terms used in these tables are described and discussed in underlying documents accessed via the hyperlinks provided

Sources of data [reference list](#)

Data compiled: October 2014

Data updated : May 2015

www.radioecology-exchange.org