

$^{239}\text{Pu}$



### Commonly used or illustrative parameters

Generic parameters	Value
Radioactive half life [1]	2.4E4 Years
Origin [1]	Man made
Principal decay mode [1]	Alpha decay
Specific activity [2]	$2.3 \times 10^9$ Bq/g
Freshwater Kd [3]	$2.4 \times 10^5$ L kg <sup>-1</sup>
Marine Kd [4]	$1 \times 10^5$ L kg <sup>-1</sup>

Parameters useful for human assessments	Value
CR Pasture grass [3]	$5.5 \times 10^{-4}$
CR Freshwater fish (muscle) [3]	$2.1 \times 10^4$ L kg <sup>-1</sup>
CR Marine fish [4]	$1 \times 10^2$ L kg <sup>-1</sup>
F <sub>f</sub> Cow meat [3]	$1.1 \times 10^{-6}$ d kg <sup>-1</sup>
F <sub>m</sub> Cow milk [3]	$1.0 \times 10^{-5}$ d L <sup>-1</sup>
Human fractional absorption (f <sub>1</sub> ) [5]	0.0005
Inhalation dose coefficient [6]	$1.6 \times 10^{-5}$ Sv Bq <sup>-1</sup>
Ingestion dose coefficient [6]	$2.3 \times 10^{-7}$ Sv Bq <sup>-1</sup>
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 <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Baby food [8]	1 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Liquid [8]	20 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Other food [8]	80 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Minor food [8]	800 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>

$^{239}\text{Pu}$  Nuclear data

[www.radioecology-exchange.org](http://www.radioecology-exchange.org)

**Commonly used or illustrative parameters**

Parameters useful for wildlife assessments	Value
Terrestrial EMCL— Soil [9]	$7.94 \times 10^2 \text{ Bq kg}^{-1}$
Freshwater EMCL—Water [9]	$1.70 \times 10^{-2} \text{ Bq L}^{-1}$
Freshwater EMCL— Sediment [9]	$6.58 \times 10^2 \text{ Bq kg}^{-1}$
Marine EMCL — Water [9]	$8.93 \times 10^{-4} \text{ Bq L}^{-1}$
Marine EMCL — Sediment [9]	$2.61 \times 10^1 \text{ Bq kg}^{-1}$
CR Terrestrial mammal (rat) [9]	$1.40 \times 10^{-2}$
CR Freshwater fish [9]	$8.30 \times 10^2$
CR Freshwater mollusc [9]	$5.50 \times 10^3$
CR Marine fish [9]	$1.40 \times 10^3$
CR Marine mollusc [9]	$1.10 \times 10^3$
Internal DCC Terrestrial mammal (rat) on soil [9]	$3.00 \times 10^{-2} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Terrestrial mammal (rat) in soil [9]	$7.20 \times 10^{-8} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ soil
External DCC Terrestrial mammal (rat) on soil [9]	$3.20 \times 10^{-8} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ soil
Internal DCC Marine fish (benthic) [9]	$3.00 \times 10^{-2} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Marine fish (benthic) in water[9]	$1.00 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ water
External DCC Marine fish (benthic) at sediment interface [9]	$5.00 \times 10^{-8} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ sediment
Internal DCC Freshwater fish (pelagic) [9]	$3.00 \times 10^{-2} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Freshwater fish in water [9]	$8.20 \times 10^{-8} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ 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](http://www.radioecology-exchange.org)