

$^{99}\text{Tc}$



### Commonly used or illustrative parameters

Generic parameters	Value
Radioactive half life [1]	$2.115 \times 10^5$ Years
Origin [1]	Fission
Principal decay mode [1]	Beta
Specific activity [2]	$6.29 \times 10^8$ Bq g <sup>-1</sup>
Freshwater Kd [3]	$5 \times 10^0$ L kg <sup>-1</sup>
Marine Kd [4]	$1 \times 10^2$ L kg <sup>-1</sup>

Parameters useful for human assessments	Value
$F_v$ Pasture grass [3]	$7.6 \times 10^1$
CR Freshwater fish	No value available
CR Marine fish [4]	$1.0 \times 10^1$ L kg <sup>-1</sup>
$F_f$ Cow meat	No value available
$F_m$ Cow milk	No value available
Human fractional absorption (f1) [5]	0.5
Inhalation dose coefficient [6]	$1.3 \times 10^{-8}$ Sv Bq <sup>-1</sup>
Ingestion dose coefficient [6]	$6.4 \times 10^{-10}$ Sv Bq <sup>-1</sup>
Biological half life for Human (adult) [7]	1.6 days (0.75), 3.7days (0.2), 22 days (0.05)
Biological half life for Cow milk	No value available
EU Food intervention limit- Dairy [8]	10 000 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Baby food [8]	4 000 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Liquid [8]	10 000 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Other food [8]	12 500 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>
EU Food intervention limit- Minor food [8]	125 000 Bq L <sup>-1</sup> or Bq kg <sup>-1</sup>

### $^{99}\text{Tc}$ Nuclear data

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

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### Commonly used or illustrative parameters

Parameters useful for wildlife assessments	Value
Terrestrial EMCL— Soil [9]	$4.61 \times 10^3 \text{ Bq kg}^{-1}$
Freshwater EMCL—Water [9]	$6.17 \times 10^2 \text{ Bq L}^{-1}$
Freshwater EMCL— Sediment [9]	$8.47 \times 10^2 \text{ Bq kg}^{-1}$
Marine EMCL — Water [9]	$1.07 \times 10^0 \text{ Bq L}^{-1}$
Marine EMCL — Sediment [9]	$3.25 \times 10^1 \text{ Bq kg}^{-1}$
CR Terrestrial mammal (rat) [9]	$3.9 \times 10^{-1}$
CR Freshwater fish [9]	$9.9 \times 10^1$
CR Freshwater mollusc [9]	$9.9 \times 10^1$
CR Marine fish [9]	$8.0 \times 10^1$
CR Marine mollusc [9]	$8.2 \times 10^3$
Internal DCC Terrestrial mammal (rat) on soil [9]	$5.8 \times 10^{-5} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Terrestrial mammal (rat) in soil [9]	$0 \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ soil
External DCC Terrestrial mammal (rat) on soil [9]	$0 \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ soil
Internal DCC Marine fish (benthic) [9]	$5.8 \times 10^{-5} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Marine fish (benthic) in water [9]	$1.2 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ water
External DCC Marine fish (benthic) at sediment interface [9]	$6.0 \times 10^{-8} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ water
Internal DCC Freshwater fish (pelagic) [9]	$5.8 \times 10^{-5} \mu\text{Gy h}^{-1}/\text{Bq kg}^{-1}$ whole organism
External DCC Freshwater fish in water [9]	$1.2 \times 10^{-7} \mu\text{Gy h}^{-1}/\text{Bq L}^{-1}$ 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: September 2012  
Data updated : May 2015